Poverty in India: A Chronological Review on Measurement and Identification

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Poverty and Human Well-being in India: A Chronological Review on Measurement and Identification

1. Introduction

Of the many afflictions and adversaries humans have to fight, poverty is perhaps the most stubborn and deeply ingrained within the society. Poverty is broadly defined as unacceptable deprivation of well-being which is multidimensional. Thus, an objective assessment of poverty should essentially recognize its multidimensionality (economic and otherwise). To remain poor also implies to remain hungry, to live without adequate shelter and clothing, to remain sick and not cared for, to remain illiterate and so on[1]. Moreover, people living in poverty tend to be highly vulnerable to adverse events outside their control and lead an existence denied of the basic access to a meaningful life.

Poverty can be either 'absolute' or 'relative'. Absolute poverty is described in terms of the inability to satisfy one's basic minimum needs that are necessary to maintain a minimum essential standard of living, say minimum essential level of food and nutrition. It is 'relative' when it refers to the position of a household or an individual in relation to the distribution of average income or consumption in a specific region or economy. Poverty could be a 'temporary' phenomenon due to, say, old age, disease, natural disaster, war or any other misfortune, or it could be of a 'permanent' nature attributed to structural factors that might be carried forward over generations.

India recognized the challenge of poverty and made its removal the central aim of its economic planning. Yet, it is also distressingly true that Indian efforts have met with a limited degree of success than what was originally anticipated. Regardless of which figure one chooses for drawing the poverty line, there is little doubt in the fact a very significant share of Indian population still lives in abject poverty. In fact the heart of the debate in the literature on Indian poverty lies in its measurement and in its successive refinements over time since the very inception of the process that was initiated by the Planning Commission way back in 1962. However the official estimate of poverty in India brought out periodically by the Planning Commission relied on micro-level household consumer expenditure survey carried out by National Sample Survey Organization and using household expenditure as a proxy for income.

1. World Bank (2001).

The notion of poverty as multidimensional phenomena does not seem to have received the due attention that it otherwise deserves.

In the light of this brief backdrop the current monograph delves into a chronological examination of the definition and measurement of poverty in India and also explores the multidimensionality in the deprivation of well-being by considering three pivotal parameters namely adequacy with respect to food, health and education.

2. Definition and Measurement of Poverty in India: A Chronological Examination

Since independence two major studies had been carried out in India that was aimed at defining poverty and fixing the poverty line. The first study was carried out in 1962 by a Working Group and the other in 1979 by a Task Force.

2.1 The Working Group Poverty Line (1962)

The Planning Commission, in 1962, constituted a Working Group consisting of eminent economists, statisticians, nutritionists, among others. The Working Group deliberated on the question of what should be regarded as the nationally desirable minimum level of consumer expenditure and in July 1962 recommended the following[2].

> (a) The national minimum for each household of 5 persons (4 adult consumption units) should not be less than Rs.100 per month in terms of 1960-61 prices or Rs.20 per capita. For urban areas, this figure will have to be raised to Rs.125 per capita to cover the higher prices of the physical volume of commodities on which the national minimum is calculated.
>
> (b) This national minimum excludes expenditure on health and education, both of which are expected to be provided by the State according to the Constitution and in the light of its other commitments.

2. 'Perspective of Development: 1961-1976 Implications of Planning for a Minimum Level of Living', in Bardhan and Srinivasan (1974).

(c) An element of subsidy in urban housing will have to be included after taking Rs.10 per month, or 10 per cent as the rent element payable from the proposed national minimum of Rs.100 per month.

This minimum level of expenditure was almost universally accepted and widely used as the poverty line in the 1960s and 1970s despite the fact that the details of the calculation based on which the minimum norm of Rs. 20 per person per month was set was not clear.

Researchers, in their attempt to find out the nexus between calorie norm and the poverty line ended up finding out that there might, at the most, be a remote connection of the poverty line with the calorie norms of the Indian Council of Medical research (ICMR). Notable among them is Rudra (1974) who made an attempt to demonstrate the statistical discrepancies in the calculation of the poverty line by the Working Group, terming its (Rs. 20 per capita per month) origin as somewhat of a mystery and underscored that the basis of its acceptance is obscure.[3]

Dandekar and Rath (1971) made an attempt to link calorie norm to poverty line and pointed out that daily intake of 2250 calories per person could be considered as adequate under the Indian conditions both in rural and urban areas.[4] They estimated from the National Sample Survey data on consumer expenditure that monthly per capita expenditure of Rs. 14.20 in rural areas and Rs. 22.60 in urban areas, both at 1960-61 prices is sufficient to meet the per capita daily calorie requirement of 2250. Thus they observed that their estimates of rural poverty line was substantially lower than the Working Group poverty line; their rural poverty line (Rs. 14.20) being 71 per cent of the working group poverty line. They eventually decided to scale it up to Rs.15.20 per capita per month. Their estimated urban poverty line (Rs. 22.60) was, however, close to the working group poverty line and hence they decided to round it off to Rs.22.50 per capita per month.

Amartya Sen (1974) underscored that the Working Group report apparently precluded from the ambit of their considerations the fact that nutritional requirements in terms of calories are age, sex, and occupation-specific and that nutritional requirements are likely to vary across rural and urban areas. The rural population is more likely to be engaged in manual activities that demand a higher calorie intake than urban population who are primarily engaged in moderate or sedentary activities. Furthermore, although the poverty line developed by the Working Group

3. Ashok Rudra, 'Minimum Level of Living: A Statistical Examination', in Bardhan and Srinivasan, 1974.
4. The Task Force constituted later in 1979, however, noted that the calorie requirement of 2250 per person per day, as mentioned by Dandekar and Rath (Dandekar and Rath, 1971), "seems to refer to the lower limit of the range of 2250 to 2300 calories per capita per day on the average at retail level estimated by P. V. Sukhatme, (Sukhatme, 1965, p 23).

had considered nutrition, they did not specify any particular nutritional norm nor any set of prices as justification for the choice of the poverty line.[5]

The Task Force (1979) whose estimates replaced that of the Working Group stated that the Working Group appeared to have taken into account the recommendation of balanced diet made by the Nutrition Advisory Committee of the Indian Council of Medical Research (ICMR) in 1958 to arrive at the conclusion that in order to provide the minimum nutritional diet in terms of calorie intake, and to allow for a modest degree of non-food items, the minimum consumption expenditure per household of 5 persons at the national level should not be less than Rs.100 per month at 1960-61 prices, i.e., Rs. 20 per capita per month. In view of the higher cost of living in the urban areas, the Working Group suggested raising the minimum expenditure there to Rs.25 per capita per month. Accordingly, the minimum expenditure in rural areas corresponded to Rs.18.90 per capita per month[6].

Furthermore, the Working Group poverty line was derived on the implicit assumption that the State would subsidize some of the welfare expenditures particularly of the poor. The poverty line determined as per capita consumption expenditure of Rs. 20 per month was based on the assumption that the State would subsidize the health and education expenditure of the people.

2.1.1 The Estimates of Poverty using Working Group Poverty Line

The Working Group poverty line was widely used in the 1960s and 1970s to estimate the poverty ratio or head count ratio (i.e., the ratio of the number of poor to the total population, expressed as percentage). Those who estimated the poverty ratio in rural and urban areas using this poverty line include V. M. Dandekar and Nilkantha Rath, Amartya Sen, Pranab Bardhan, B S Minhas, I Z Bhatty, T N Srinivasan, Montek Singh Ahluwalia, among others. Some of them, for example, Bardhan, and at a later stage Ahluwalia converted this national level poverty line into state-specific poverty lines, with the help of state-specific price indices. As a result of the differences in the price indices, the splitting of this national level poverty line of Rs. 20 per capita per month, into sectors such as rural and urban, and within each area among the states,

5. Amartya Sen, 'Poverty, Inequality and Unemployment', in Bardhan and Srinivasan (1974).
6. Government of India, 1979, p 5.

yielded varying numbers resulting from the variety of the price inflators (or deflators, as is commonly used). The rural and urban poverty lines worked out by Bardhan is per capita consumption expenditure of Rs.15 per month in rural areas and Rs.18 per month in the urban areas. Minhas and in a separate attempt Bhatty, used this poverty line to estimate the incidence of poverty among occupation classes of the rural population. Some of these studies are briefly illustrated below.

Ahluwalia (1978) decomposed the national poverty line into state-specific poverty lines and used these state-specific poverty lines to estimate state-wise poverty ratios. He used the estimated poverty series in the rural areas to find out the factors which affect rural poverty, besides the impact of income and prices on changes in poverty.[7]

The poverty ratio makes no distinction within the broad category of the poor depending upon their actual level of consumption and deprivation. For this reason, the poverty ratio fails to capture the depth or severity of poverty or in other words and fails to answer the question- how poor the poor are? In order to address the intensity of poverty Amartya Sen (1974) [8] tried to associate the incidence of poverty with the phenomenon of equity and proposed an alternative measure of poverty which is superior to the poverty ratio (i.e. head-count ratio) and the standard measure of relative inequality. This measure of intensity of poverty is known as Sen's index (the measure is explained in the Appendix).

Bhatty[9] estimated state-wise head count poverty ratio and Sen's index and for different occupation classes of the population in rural areas applying a range of poverty lines to demonstrate the sensitivity of income. According to the level of poverty ratio, Bhatty categorized the states into high, medium and low level of poverty. The poverty ratios based on the working group poverty line shows:

(a) Gujarat, Tamil Nadu, Madhya Pradesh and Rajasthan are highly poor states.
(b) Uttar Pradesh, Kerala, Orissa, Maharashtra and Karnataka are medium poor states.
(c) Bihar, Andhra Pradesh, Assam, West Bengal, Punjab and Haryana are low poor states.

7. Ahluwalia (1978).
8. Amartya Sen, 'Poverty, Inequality and Unemployment', in Bardhan and Srinivasan (1974).
9. I Z Bhatty, 'Inequality and Poverty in Rural India', in Bardhan and Srinivasan (1974).

Bhatty estimated poverty ratio for different occupation groups of the population in rural areas such as cultivators, agricultural labourers and non-agricultural workers from the Working Group poverty line of Rs.20 per capita per month and the NSS consumer expenditure distribution. These were estimated for the year 1968-69 and are given in Table 1.

Table 1
Occupation-Specific Poverty Ratio in 1968-69

Category of Occupation	Poverty Ratio
1. Cultivators	39.31
2. Agricultural Labourers	56.21
3. Non- Agricultural Workers	39.55
4. All Households	42.43

Source: Tables 11 to 14 in Bardhan and Srinivasan, 1974, pp 318-319

The poverty ratio among the agricultural labourers (56.21 per cent) in 1968-69 is about one-third more than the national rural poverty ratio (42.43 per cent), which is the poverty ratio obtained for all rural households, including the agricultural labour households.

2.2 Task Force Poverty Line (1979)

The Planning Commission on 30th July, 1977, constituted a Task Force on Projections of Minimum Needs and Effective Consumption Demand under the Chairmanship of Dr Y. K. Alagh. The job of the Task Force was : "to examine the existing structural studies on consumption patterns and standards of living and the minimum needs with particular reference to the poorer sections of the population for the nation as a whole, and its different regions separately by rural and urban areas; on the basis of the above studies, to forecast the national and regional structure and pattern of consumption levels and standards for the end of the Sixth Plan and subsequent perspective plan taking into consideration the basic minimum needs as well as effective consumption demand"[10].

The Task Force defined the poverty line as per capita consumption expenditure level, which meets the average per capita daily calorie requirement of 2400 kcal in rural areas and 2100 kcal

10. Government of India, 1979, p 4.

in urban areas along with the associated quantum of expenditure on non-food items such as clothing, shelter, transport, education, health care, etc. The average calorie requirement was calculated from the projected population (for the year 1982-83) by age, sex and activity and the associated calorie norm recommended by the Nutrition Expert Group (1968) of the Indian Council of Medical Research (ICMR)[11].

The Nutrition Expert Group (NEG) categorized the population into- (a) children in terms of age; (b) adolescents in terms of age and sex; and (c) workers by sex. The age, sex and activity structure of the population was derived from: (a) the population estimates of the Expert Group on Population (1977)[12], (b) census occupational structure[13], and (c) usual status participation rates[14]. The workers were grouped into heavy, moderate and sedentary. The pregnant and lactating women were allowed additional calories. This is how age, sex and occupational differentials in the calorie requirement of the population were captured in the average norms.

The monetary requirements for meeting these calorie norms (2400 kcal per capita per day in rural areas and 2100 kcal per capita per day in urban areas) along with other non-food necessities as mentioned above had been designated as the poverty lines pertaining to rural and urban areas. The Task Force utilised the 28th Round National Sample Survey (NSS) data on household consumer expenditure (pertaining to 1973-74) and estimated that, on an average, consumer expenditure of Rs.49.09 and Rs.56.64 per capita per month per capita per month meets the calorie requirement of 2400 kcal and 2100 kcal per capita per day in rural and urban areas respectively. Based on the observed consumer behavior in 1973-74 the estimated poverty lines had been observed to conform to a consumption basket, which, besides satisfying the above calorie norm, also meets a minimum of non-food requirements such as clothing, shelter, transport, education, health care, etc. Since the consumption was evaluated at 1973-74 prices, the poverty lines were also measured in terms of the prices prevailing in that year.

11. The relevance of the year is that it was the terminal year of a Five Year Plan which was prepared but not implemented due to change in the Government. This was the Sixth Five Year Plan, 1978-83, which gave way for the Sixth Five Year Plan, 1980-85.
12. The Expert Group was a joint initiative of the Perspective Planning Division of the Planning Commission and the Office of the Registrar General, Census of India.
13. Derived from the 1971 Census.
14. Based on NSS data on Employment and Unemployment pertaining to 27th Round (1972-73).

2.2.1 Updation of the Poverty Line based on Task Force Report

The poverty lines for later years were estimated by updating the 1973-74 poverty lines. The updation was initially carried out from the price inflation implicit in the Wholesale Price Index (WPI). The use of WPI was, however, contested on the grounds that it constitutes of a range of items (nearly half its weight) which are not meant for private consumption and that the consumers buy goods at retail and not at wholesale prices. This prompted the Planning Commission to constitute another Study Group on Estimation of Poverty Line during the Seventh Five Year Plan (1985-90)[15]. This Study Group recommended the use of implicit private consumption deflator of the National Accounts Statistics (NAS) of the Central Statistical Organization (CSO) for updation of the 1973-74 poverty lines for use in later years. CSO in their National Accounts Statistics publish the estimates of private consumption expenditure at current and constant prices. The ratio between the two yields the implicit consumption deflator.

2.2.2 Computation of Poverty Ratio by the Task Force

The number of people living below the poverty line was estimated from the percentage distribution of people in different expenditure classes obtained from the NSS data on household consumer expenditure. The information was, however, not utilized directly by the Task force but used after making some adjustment. The NSS distribution of private consumption was adjusted proportionately so that the total consumption arising from the NSS data corresponded to the total consumption estimates of National Accounts Statistics (NAS) derived by the Central Statistical Organization (CSO). Using the poverty line and the adjusted distribution of persons by expenditure classes for the reference year the percentage of population living below the poverty line (i.e., the poverty ratio) was estimated. Considering the projected population of the year, the number of poor people was estimated by using the aforementioned percentage.

Thus, the salient feature of the method of poverty estimation by the Task Force is that the poverty line is at national level, and the NSS consumption expenditure was *pro-rata* adjusted to CSO consumption across all expenditure groups of the population. In fine, the Task Force

15. Government of India (1984).

estimated the national poverty line in rural and urban areas and recommended a methodology to estimate the poverty in the rural and urban areas but at the national level.

However the Planning Commission in order to come out with official estimates of poverty at the state level not only used the Task Force poverty line, which is at the national level (in rural and urban areas), as it is to all the states but also adjusted the NSS consumption distribution of the states *pro-rata* to the NAS consumption levels across all expenditure classes of the population. This decision of the Planning Commission, which was completely outside the purview of the Task Force recommendation, however, was extensively debated at a later stage.

2.2.3 Criticisms Leveled Against Task Force Methodology

The Task Force methodology for estimating poverty at the national and state level was regarded by some as inappropriate and even inadequate in giving a representative picture of the incidence of poverty in India. The main criticisms that had been leveled against the task force methodology were:

a) ***Inappropriate adjustment procedure***: The way NSS consumption distribution is scaled up by its difference with the CSO consumption became questionable especially since the aggregate consumption estimated by the CSO in its NAS was greater than that estimated from the NSS consumer expenditure. Thus, increasing the consumption of the poor and the non-poor and also of high and low income states, by the same rate became the subject matter of serious debate as the difference between the CSO consumption and that under NSS kept on increasing with time. When the Task Force recommended such a manner of adjustment, the difference between the NSS and CSO consumption was only 6 per cent in 1973-74, the year in which the Task Force estimated the poverty line. The difference began to rise with time and particularly with change in the base of national accounting by the CSO. For example, when the Task Force recommended the adjustment, the CSO estimate of consumption was available with 1970-71 as base. In 1973-74, the CSO consumption with 1970-71 as base was 6 per cent more than the NSS consumption. This increased to 15 per cent when CSO changed the base of national accounting calculation to 1980-81 and further to 39 per cent when the base changed to 1993-94. Similarly, for 1977-78, the difference was 8 per cent in 1970-71 prices, which changed to 18 per cent in 1980-81 prices and further to 42 per cent in 1993-94 prices. In 1993-94, the difference was 40 per cent with 1980-

81 as base, which rose to 62 per cent when the base was changed to 1993-94. The CSO consumption in 1999-2000 is available only at 1993-94 prices and it is 76 per cent more than NSS consumption. If the Task Force method was continued to be applied to estimate poverty, then with 40 per cent adjustment factor in 1993-94, the poverty ratio would have been about 12 per cent; with 62 per cent adjustment factor the poverty in 1993-94 would have been 7 per cent. Likewise, if the NSS consumption distribution of 1999-2000 is scaled up by 76 per cent (which is the difference with CSO consumption) then poverty in 1999-2000 becomes less than 5 per cent.

(b) ***Choice of deflators to represent price changes in the poverty line****:* The choice of wholesale price index (WPI) in the updation of the national poverty line and its uniform application in rural and urban areas has been contested by many. The alternative index that could ideally be considered is the consumer price index (CPI), which is available for both rural and urban areas. Hence, the use of the CPIs in the rural and urban areas allows the opportunity to capture the regional price differentials. Despite the fact that WPI included items, about 30 per cent of its aggregate weight which are not meant for private consumption, the exclusion of CPIs as deflators by the Task Force was ostensibly due to two primary reasons. First, CPI pertaining to rural areas i.e. consumer price index of agricultural labourers (CPIAL) during 1973-74 was available with a base-year of 1960 which in turn was based on the family living survey of 1957. Likewise, CPI pertaining to urban areas i.e. consumer price index of industrial workers (CPIIW) was also available with 1960 as base. On the contrary, WPI was available with 1970-71 as base. Second, the lag in the release of the CPIAL and CPIIW was much more as compared to that of the WPI.

(c) ***Use of a fixed consumption basket over time****:* It had often been argued by many that the consumption basket of 1973-74 could have changed with lapse of time possibly due to changes in income, prices, and above all, tastes and preferences of the consumers. However, changing the consumption basket has its flip side too as such a change would render the poverty estimates inter-temporally non-comparable. In view of this flip side, the Expert Group constituted in 1989 to replace the Task Force poverty line, preferred not to tinker with the consumption basket.

(d) ***Use of a fixed consumption basket state-wise/regionally****:* Choice of a uniform consumption basket for all the states despite marked difference in state-wise/regional

consumption pattern has also been extensively debated. However, doing away with this choice also has its flip side.

2.3 Expert Group Methodology (1993)

The Planning Commission constituted an expert group in September, 1989 for estimating the proportion and number of poor under the chairmanship of professor D. T. Lakdawala to "look into the methodology for estimation of poverty and to re-define the poverty line, if necessary"[16]. After nearly four years of its constitution, the expert group submitted its Report in July 1993. This was followed by another four years of deliberations and in March 1997 the Prime Minister accepted the recommendations of the expert group with minor modifications. Some of the salient features in the report submitted by the expert group are as follows:

i. The group decided to retain the poverty line defined by the Task force
ii. The group recommended that the Task Force poverty line (which is expressed as monthly per capita consumption expenditure of Rs. 49.09 in rural areas and Rs. 56.64 in urban areas, both at 1973-74 prices) should be adopted as the base line.
iii. The group disaggregated the national level rural and urban poverty lines as defined by the Task Force into state-specific poverty lines.

Since (iii) is the only value addition to the Task Force by the Expert Group, the next three sub-sections are devoted to a discussion of the methodology of disaggregating the national poverty line into state-specific poverty lines. As a reason for its endorsement of the existing task force approach the expert group argued that “some degree of arbitrariness is inherent in the choice of any base year” and stated that since “much systematic work has already been done with the base year 1973-74, the group is in favour of continuing it as a base year for estimating the poverty line”.

16. Government of India (1993), p 1.

2.3.1 Rural Poverty Lines

The expert group disaggregated the national rural poverty line of Rs. 49.09 in 1973-74 into state-specific poverty lines using state-specific price indices of 1973-74 and inter-state price differential. The state-specific price indices in 1973-74 were worked out by averaging the state-specific food and non-food price indices of Consumer Price Index of Agricultural Labourers (CPIAL), using their respective weights in the consumption basket of the poor at national level.[17] The inter-state price differential was worked out by constructing Fisher's Index (the geometric mean of Laspayer's and Paasche's index) which provides the cost of a fixed consumption basket for the states from the quantity and value of consumption of each item.[18]

The state-specific rural poverty lines in 1973-74 had been updated for use in later years by state-specific price indices, which were constructed as weighted average of (a) food (b) fuel and light, (c) clothing and footwear and (d) miscellaneous, of CPIAL, averaged by their respective weights in the consumption basket of the poor in 1973-74 at national level.[19]

2.3.2 Urban Poverty Lines

The national urban poverty line of Rs. 56.64 in 1973-74 was disaggregated into state-specific poverty lines using state-specific price indices of 1973-74 and inter-state price differential. The state-specific price indices were constructed from the consumer price index of industrial workers (CPIIW) and the inter-state price differential was captured through Fisher's Index.[20] The state-specific CPIIWs were worked out by averaging the indices of (a) food (b) fuel and light (c) housing (d) clothing, bedding and footwear and (e) miscellaneous using their respective weights in the consumption basket of the poor at national level in 1973-74.[21]

17. The weight of food and non-food was considered as 81.28 per cent and 18.72 per cent respectively.
18. The index was constructed from NSS 18th Round (February 1963 to January 1964) data on consumer expenditure and computed for 40th to 60th percentile of the population.
19. The weights of food, fuel and light, clothing and footwear and miscellaneous in the consumption basket of the 40th to 60th percentile of the population at national level in 1973-74 (NSS 28th Round) were 81.28 per cent, 6.15 per cent, 3.72 per cent and 8.85 per cent respectively.
20. The CPI for industrial workers which are available for 50 centers (subsequently for 70 centers) is mapped into State/UT level.
21. The weights of food, fuel and light, housing, clothing, bedding and footwear and miscellaneous in the consumption basket of 40th to 60th percentile of the population at national level in 1973-74 (NSS 28th Round) are 74.63 per cent, 6.71 per cent, 2.52 per cent, 2.86 per cent and 13.28 per cent respectively.

The state specific price indices for the later years were constructed in a similar way and using these price indices the state-specific poverty lines of 1973-74 had been updated.

The expert group also suggested use of simple average of state-specific consumer price indices of Industrial Workers (especially weighted, as mentioned above) and Consumer Price Index of Urban Non-Manual Employees to estimate and update the state-wise urban poverty lines of 1973-74. The Planning Commission, however, dropped the Consumer Price Index of Urban Non-Manual Employees and made use of only the weighted Consumer Price Index of Industrial Workers for this purpose.[22]

2.3.3. The National Poverty Line

The expert group estimated the state-specific poverty lines, but not specifically the poverty lines at the national level. The national poverty lines under the expert group method were worked out as an interpolated value from the national level expenditure distribution obtained from the NSS consumer expenditure data and the national level poverty ratio. The national level poverty ratio was estimated as the average of state-wise poverty ratios.

2.3.4 Computation of Poverty Ratio using Expert Group Method

The method of estimating the poverty ratio (i.e., the ratio of the number of poor to the total population, expressed as percentage) as delineated in the Expert Group method and which continued to be used by the Planning Commission afterwards to estimate the poverty ratio is described below.

The expert group calculated the state-specific poverty ratios in the rural and urban areas on the basis of state-specific poverty lines (in the rural and urban areas derived in the manner as explained above) and the state-specific distribution of persons by expenditure groups in the rural and urban areas obtained from the NSS data on consumer expenditure. Unlike the task force, which adjusted the NSS consumption to NAS on a *pro-rata* basis, the expert group used unadjusted NSS consumption distribution. The aggregate poverty ratio of the state was worked out by combining the rural and urban poverty ratios. The expert group further recommended that poverty ratio at the national level should be computed as an average of state-wise poverty ratios

22. The rate of increase of Consumer Price Index of Urban Non-Manual Employees has been faster than that of the CPI of Industrial Workers. The exclusion of CPI of Urban Non-Manual Employees imply a lower rate of increase of the urban poverty line and hence a lower level of urban poverty.

and that the state-wise poverty ratios should be computed only from the large sample surveys of consumer expenditure of the NSS.[23]

However, due to non-availability of state level prices, the expert group could estimate the poverty lines and the poverty ratios only for eighteen states and union territories (UTs). The poverty ratios in the remaining states/UTs were equated with one of these eighteen states/UTs based on the criteria of physical contiguity and similarity in economic profile.

Since March 1997 the government adopted the expert group methodology (with a minor modification in the method of computing urban poverty lines as mentioned before) for poverty estimation as the basis for computing the official estimates of poverty in India. By making use of the expert group method the planning commission estimated the poverty ratios in rural and urban areas for the states and UTs pertaining to 1973-74, 1977-78, 1983, 1987-88 and 1993-94.[24] These were the years for which the large sample survey consumer expenditure data are available from the NSS. Later on, the estimates of poverty were also made for 1999-2000 by making use of the NSS 55th Round consumer expenditure data.[25] It deserves to be mentioned at this juncture that the planning commission is the nodal agency in the Government of India for estimation of poverty and for this reason the estimates of poverty made by it are the official estimates of poverty. These official estimates of poverty are utilised in deciding the allocations of food and funds across sectors and regions.

Annexure tables I and II provide the state-wise poverty lines in rural and urban areas for the years 1973-74, 1977-78, 1983, 1987-88 and 1993-94 respectively. Annexure tables IV to VIII indicate the state-wise official poverty ratios and number of poor in rural and urban areas in the states and for the states as a whole for each of the aforementioned years.

Although the methodological alterations in poverty estimation are likely to have perceptible influence on the absolute level of poverty for each year; the changes in the poverty over the years are less likely to get affected on that count. Thus, the switch over from the task force to the expert group methodology resulted in the lowering of absolute level of poverty for a particular year, but it did not lead to any significant variation in the incidence of poverty over time. Even, the state-wise composition of the number of poor, which is a critical component in deciding the inter-state allocation of the funds that flows from the central government to finance

23. The sample sizes of the large surveys exceed hundred thousand families and the surveys are conducted once in approximately five years. On the contrary the small or thin sample surveys are conducted annually and with a much reduced sample size.
24. Government of India, Press Information Bureau, 11 March, 1997.
25. Government of India, Press Information Bureau, 22 February, 2001.

the poverty alleviation programmes, remained more or less insulated from the methodological changes. [26]

However, the efforts to measure the changes in the incidence of poverty in the late 1990s sparked off a fresh debate due to alterations in the procedure of data collection on consumer expenditure pertaining to NSS 55th round. As a consequence, the estimate of poverty derived from the NSS consumer expenditure data of 1999-2000 (NSS 55th Round) became non-comparable with the earlier poverty estimates. This makes it all the more essential to delineate the estimation of poverty based on NSS 55th Round data on consumer expenditure.

2.3.5 Official Poverty Estimates for 1999-2000[27]

The computation of official poverty estimates for 1999-2000 need elucidation because the method of data collection in the NSS 55th Round is quite different from the earlier rounds of large sample survey, where the data were collected using a uniform recall period of 30-days for all items of consumption (though data were collected for some of the non-food items using reference periods of both 30 days and 365 days from the same household). The NSSO in the 55th Round collected the consumption expenditure data from the households in the following manner:

i. The data on consumption of food items (including pan, tobacco and intoxicants) were collected by using two different recall period of 7-days and 30-days from the same households, in that order.
ii. The consumption expenditure data in respect of selected non-food items, such as clothing, footwear, medical (institutional) and durable goods were collected using 365-day recall period.
iii. In case of the remaining non-food items, the consumption expenditure data were collected using 30-day recall period.

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26. Andhra Pradesh is the only state which faced a substantial cut in the allocation of funds under poverty alleviation programme due to lowering in the poverty ratio in the expert group method, *vis-à-vis* the task force method. In fact the share of poor in Andhra Pradesh, as per expert group method, was nearly 70 per cent lower than that in the task force method. The share of the number of poor in Karnataka, Madhya Pradesh, Maharashtra and Orissa according to the expert group method was lower by around 5 to 10 per cent from that pertaining to task force method. The consequential reduction in the assistance under the poverty alleviation programmes in these states was however averted at the intervention of the Committee of the National Development Council (NDC), the highest policy making body of the country, comprising of the Chief Ministers of all the states and the UTs, with the Prime Minister as its chairman.
27. This section draws on Saxena (2001).

On the basis of data collected, the NSSO generated two different estimates of consumption in the 55th Round. The 7-day recall data on food and 30/365 day recall data on non-food was termed as 7-day recall data, and the 30-day recall data on food and 30/365-day recall data on non-food was termed as 30-day recall data.

The planning commission estimated poverty from both distributions reported by the NSSO, using the expert group methodology. State specific poverty lines have been estimated using the original state specific poverty lines identified by the expert group and updating them to 1999-2000 prices using the CPIAL for rural households and the CPIIW for urban households. These poverty lines are given in Annexure Table III. The poverty lines were then used in conjunction with each of the two consumption distributions to estimate the percentage of people below the poverty line (poverty ratio) for each state. As in the past, separate estimates were made for rural and urban areas for each state, which were then combined into a state level estimate. Annexure Tables IX and X shows the poverty ratio and the number of poor for rural, urban and total for the 30 day and 7 day recall period.

The official estimate of poverty made by the planning commission for the year 1999-2000 (based on 30 day recall period) indicates a sharp decline in the poverty ratio in the 1990s. That there has been a decline in poverty during the 1990s does not seem to have generated many disputes. But to what extent could the decline be attributed to non-comparability of consumer expenditure data on account of changes in data collection methodology of data from 1993-94 to 1999-2000 has been the subject matter of an intense debate, both within and outside the country. This has made the assessment of the extent of poverty reduction in the 1990s increasingly complicated with a plethora of views depending on the data used and corrections made to take into account the problems of comparability. The following section describes in a nutshell the essence of the debate drawing primarily from the compilation volume of Deaton and Kozel (2005). [28]

28. Deaton and Kozel (2005) provide an extensive coverage of the debate.

2.3.6 Official Poverty Estimates for 2004-05[29]

The latest large sample survey data on household consumer expenditure pertaining to 61st Round of NSS covers the period July 2004 to June 2005 [Report No.508 (61/1.0/1)]. From this data, two different consumption distributions for the year 2004-05 have been obtained. The first one from the consumption data collected using 30-day recall period for all the items. The other distribution is obtained from the consumption data collected using 365-day recall period for five infrequently purchased non-food items, namely, clothing, footwear, durable goods, education and institutional medical expenses and 30-day recall period for the remaining items. These two consumption distributions have been termed as Uniform Recall Period (URP) consumption distribution and Mixed Recall Period (MRP) consumption distribution respectively. The Planning Commission adopted the Expert Group methodology and estimated official poverty ratio pertaining to 2004-05 by making use of both the distributions.

The state-wise rural and urban poverty lines for the year 2004-05 are given in Annexure Table IIIA. These are estimated using the original state-specific poverty lines identified by the Expert Group and updating them to 2004-05 prices using the Consumer Price Index of Agricultural Labourers (CPIAL) for rural poverty lines and Consumer Price Index for Industrial Workers (CPIIW) for urban poverty lines.

The state specific percentage and number of poor in rural and urban areas estimated from URP and MRP consumption distribution are shown in Annexure Tables XII and XIII respectively.

2.3.7 Analysis of State wise Variation in Poverty Reduction over the Years (on the basis of official poverty ratios estimated using Expert Group Methodology)[30]

Table 2 provides a classification based on official poverty estimates of the Planning Commission and groups 15 major Indian states with respect to state-specific poverty ratio (head count ratio) above and below the national average and indicates their relative performances in poverty reduction over time.

29. Press Information Bureau, Government of India, March 2007.
30. The analysis in this section draws on Bandyopadhyay, 2007, Chapter 2, pp 13-18.

The states could be grouped into four categories on the basis of poverty ratio in the initial year (1973-74), the rate of decline in poverty over three decades, 1973-74 to 2004-05, and other characteristics, like, size of the state, income and population[31].

Category I: Bihar, Orissa and Madhya Pradesh

These three states turned out as the perennially poor ones. Although, the average level of poverty of these states reduced significantly in absolute terms from 62.6 percent in 1973-74 to about 38 per cent in 2004-05 (as per the official estimates) but, as per the recent estimate of poverty for 2004-05, one in every three poor in the country belongs to these three states as compared to a concentration of one in every four poor in 1973-74. This could be attributed partly to a higher rate of population growth but largely to lower rate of poverty reduction vis-à-vis other states.

Category II: Uttar Pradesh, Maharashtra, West Bengal, Assam

Except for Assam which has experienced a substantial poverty reduction from 1993-94 to 2004-05, the pace of poverty reduction in these states has generally been relatively slow and the level of per capita income has also not been adequate to facilitate such a process.

Category III: Andhra Pradesh, Karnataka, Kerala and Tamil Nadu

These states belong to the southern zone of the country and have witnessed substantial reduction in poverty as indicated by a decline in the poverty ratio from 53.3 per cent in 1973-74 to 19.5 percent in 2004-05. Along with increase in per capita income, which contributed substantially to poverty reduction, the population growth in these states also declined concomitantly and led to a higher rate of poverty reduction overtime. These four states were home to 24 per cent of the country's poor in 1973-74. In 2004-05 only 15.24 per cent of the country's poor belonged to these states.

31. For similar pattern of categorization carried out earlier see Dutta and Sharma, 2002.

Table 2: Relative Performance of Fifteen Major States in Poverty Reduction over three decades

(States have been sorted according to the poverty ratio as reported by the Planning Commission in the order of higher to lower value)

1973-74 (54.88% -All India)	
States with poverty ratio above national average	**States with poverty ratio below national average**
Orissa, West Bengal, Bihar, Madhya Pradesh, Kerala, Uttar Pradesh, Tamil Nadu	Karnataka, Maharashtra, Assam, Andhra Pradesh, Gujarat, Punjab, Rajasthan, Haryana
1983-84 (44.48%- All India)	
Orissa, Bihar, West Bengal, Tamil Nadu, Madhya Pradesh, Uttar Pradesh	Maharashtra, Assam, Kerala, Karnataka, Rajasthan, Gujarat, Andhra Pradesh, Haryana, Punjab
1993-94 (35.97%- All India)	
Bihar, Orissa, Madhya Pradesh, Assam, Uttar Pradesh, Maharashtra	West Bengal, Tamilnadu, Karnataka, Rajasthan, Kerala, Haryana, Gujarat, Andhra Pradesh, Punjab
2004-05 (27.5%)- All India)	
Orissa, Bihar, Madhya Pradesh, Uttar Pradesh, Maharashtra	Karnataka, West Bengal, Tamilnadu, Rajasthan, Assam, Gujarat, Andhra Pradesh, Kerala, Haryana, Punjab

For 2004-05 the URP consumption distribution has been used here for sake of comparison

Category IV: Gujarat, Haryana, Punjab and Rajasthan

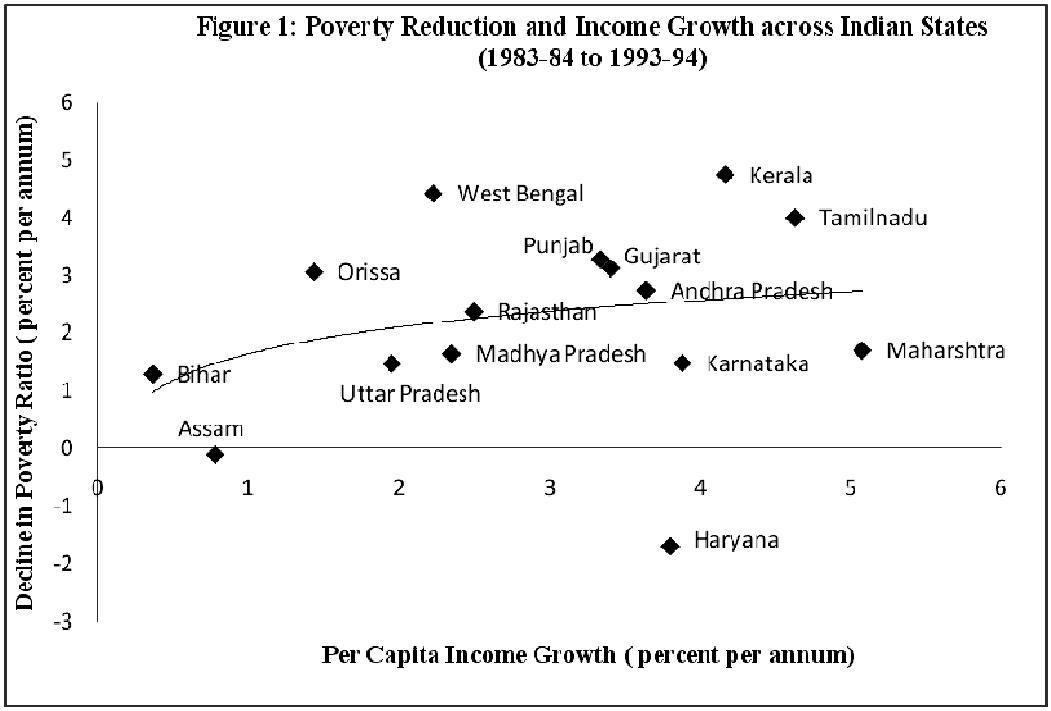
The poverty ratio in these states was lower than the national average in 1973-74 and ranged from 28 per cent in Punjab to 48.1 per cent in Gujarat. This category comprised states with both high and low per capita incomes in the initial period (1973-74), but registered a higher growth in the intervening period. The decline in the poverty ratio has been the highest in this group of states. According to the latest official poverty estimate of 2004-05 these states are much below the national average, with poverty ratio ranging from 8.4 percent for Punjab to 22.1 percent for Rajasthan.

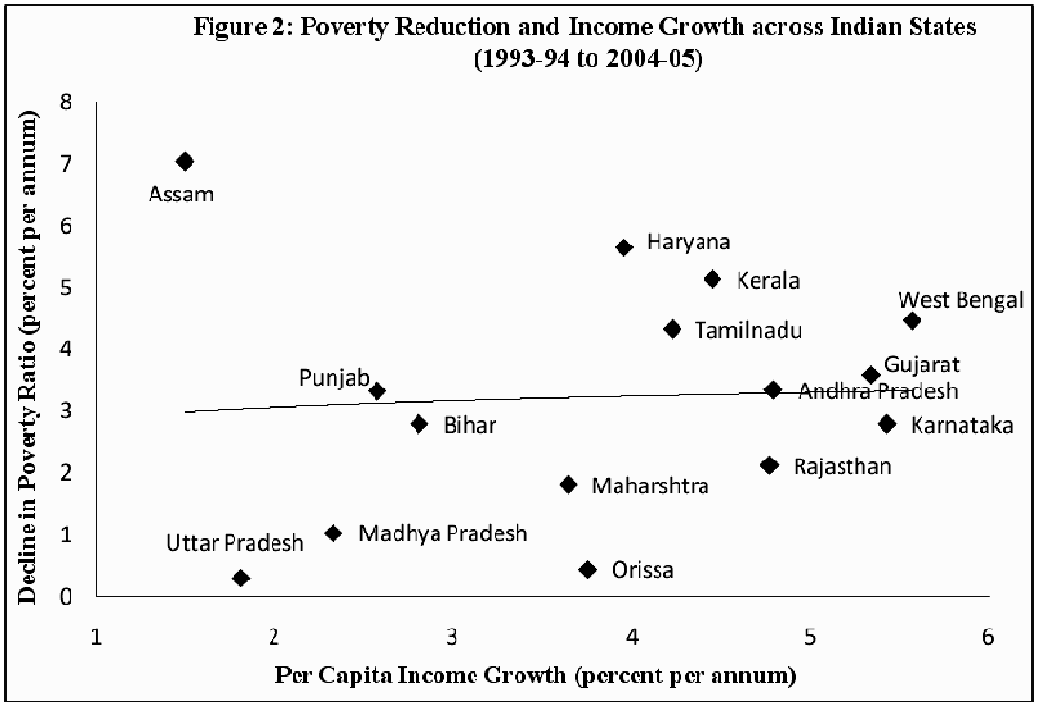
A crucial observation that could be made from the movement of poverty ratio is that for the states which had higher poverty ratios to begin with, the rate of decline in poverty had been slower. This is brought out strongly by the fact that the position of Bihar, Orissa and Madhya Pradesh, as per the latest official estimate of poverty ratio for 2004-05, is almost the same as their position three decades back in 1973-74. The poverty ratio in each of these states is still lying much above the national average. Similarly, Gujarat, Punjab and Haryana, which had

poverty ratios much below the national average as of 1973-74, are still at the lower end in terms of poverty as of 2004-05.

There has been a lot of debate around the intensity of antipoverty effectiveness of growth in the pre-reform and post-reform period in India. Based on the years for which official poverty estimates are available, two separate time-periods have been considered – 1983-84 to 1993-94 (which encompasses a major part of the decade prior to economic reform of 1991) and 1993-94 to 2004-05, which projects post-reform performance. The anti-poverty effectiveness of growth for each of the fifteen major states could be broadly understood by comparing their compound annual rate of decline in poverty ratio with per capita income growth per annum (as shown in figs. 1and 2).

As evident from figs. 1 and 2, the states which appear to have registered an increase in anti-poverty effectiveness in consonance with per capita income growth in the post-reform period (1993-94 to 2004-05) are Assam, Haryana, Karnataka, Kerala, Maharashtra, Punjab and Tamilnadu. Assam and Haryana had been able to successfully reverse a rising trend in poverty in the pre-reform period to a significant decrease in poverty in the post-reform period. For other states, there has either been a moderate increase in anti-poverty effectiveness in post-reform period or effectiveness has been maintained at nearly the same level in the pre-and post-reform period. The states which have seemingly registered a decline in effectiveness are Andhra Pradesh, Bihar, Gujarat, Madhya Pradesh, Orissa, Rajasthan, Uttar Pradesh and West Bengal. As indicated by the decline in gradient and flattening of trend line in figure 2, there has been a general decline in anti-poverty effectiveness in the post-reform period as compared to the pre-reform period.





Source: For both Figure 1 and Figure 2, Poverty Ratio is based on Planning Commission (2002) and Planning Commission (2007) and CSO for Per Capita Income (Per Capita NSDP) Growth.

Bihar and Orissa have registered a phenomenal decline in effectiveness. Andhra Pradesh has experienced a marginal decline in effectiveness in the post-reform period. What is worth

noticing in the figures, however, is that with the exception of Assam and Maharashtra, all the states that belong to category I and category II have experienced a decline in terms of anti-poverty effectiveness in the post-reform period. The economic reform process does not seem to have yielded benefit for the chronically poor states like Bihar, Madhya Pradesh, Uttar Pradesh and Orissa both in terms of per capita income growth and decline in poverty. Moreover, Gujarat, a prosperous state belonging to Category IV, which has performed well both in terms of income growth and poverty reduction throughout the pre-reform period has registered a decline in anti-poverty effectiveness in the post-reform period.

2.4 The Great Indian Poverty Debate: A Snapshot

Deaton and Kozel (2005) is a compilation of a good number of papers focusing on the debate on reduction (or otherwise) of poverty especially in the post-economic reform period in India (i.e. after 1991). The debate on Indian poverty estimates is not only relevant in the Indian context but it has quite aptly generated a global interest because of the implications and importance of India's poverty measurement and the methodological challenges and dilemmas associated therewith for the world as a whole. The extent of confusion that has been created due to lack of clarity on the basic conceptual underpinnings especially with respect to the identification of the poor undoubtedly inspired awe and wonder both locally as well as globally.

The issues that are central to the debate on the poverty in the nineties primarily includes - the right way in which to resolve conflicts concerning in particular the adjustment of the estimated household consumption levels of NSSO with that pertaining to NAS (which has been captured partly in section 1.2.3), the right choice of recall period in surveys concerning household consumption, the appropriate choice of initial poverty line, and the appropriate means for adjusting that poverty line to account for variations in purchasing power over space and time in order to maintain its substantive invariance. These issues are discussed briefly here.

The Debate on Adjustments

An issue that was of central concern in the debate especially after the task force report, as discussed before, and continued in the nineties is whether estimates of household per capita consumption based on national sample survey should be "corrected" for the estimates of average

private consumption based on the national accounts data. It has been argued by most of the contributors to this debate in Deaton and Kozel (2005) that national accounts data because of some serious problems are highly unlikely to reflect upon the level of consumption of poorer persons in India. Notable among these contributions is a classic paper written in the late eighties by B.S. Minhas[32] and contained in the aforesaid edited volume. The paper lays out the issues that have dominated the contemporary debate that includes the differential definition and coverage of NAS and NSS consumption, differences in timing, and the heavy reliance in national accounting practice on various "rates and ratios" that link observable but irrelevant quantities to the relevant but unobservable ones. Minhas underscored that these ratios are in principle derived from surveys, for example surveys that link the earnings of those employed in services to the value added in the service sector, but are frequently many years, often decades, out of date. The use of outdated "rates and ratios" in an economy undergoing growth and structural development will typically lead to systematic *trend* errors in the accounts. A prime example is the netting out of intermediate production from value-added, which is frequently done using some fixed ratio. But the degree of intermediation tends to grow as the economy becomes more complex and more monetized, so that the rate of growth of GDP and of consumption will be systematically overstated in a growing economy. The points raised by Minhas have been endorsed indirectly by Kulshreshtha and Kar[33] and Sundaram and Tendulkar[34] which are also contained in this edited volume. Kulshreshtha and Kar documented the growing discrepancy between the two sources, from 5 percent in 1957–58 to more than 38 percent in 1993–94, and noted that the discrepancy for non-food is both larger and more rapidly growing than the discrepancy for food. Although there were some exceptions, the general finding was same as Minhas that when there is a discrepancy, it is the National Accounts estimates that are typically less plausible and more likely to be in error. They underscored that there is nothing in their findings that would "render the NSSO data on household consumption expenditure unfit for measurement of poverty incidence." Sundaram and Tendulkar reported on the findings of a joint CSO-NSSO exercise concerned with the cross-validation of the two sets of estimates. They drew particular attention to the fact that revisions for some categories in NAS are often so large as to cast serious doubt on the estimates in general. They also underscored that survey data should be preferred because they

32. Minhas, B. S., 'Validation of large-scale sample survey data: case of NSS household consumption expenditure,' in Deaton and Kozel (2005).
33. Kulshrestha, A. C. and Aloke Kar, 'Consumer expenditure from the National Accounts and National Sample Survey,' in Deaton and Kozel (2005).
34. Sundaram, K., and Suresh Tendulkar, 'NAS-NSS estimates of private consumption for poverty estimation: a further comparative examination," in Deaton and Kozel (2005).

measure living standards *directly*, as opposed to NAS statistics, which derive consumption as a residual at the end of a long chain of calculations. Additionally they drew attention to those items included in the NAS estimates but not in the surveys such as the imputed rents of owner occupiers and expenditures by nonprofit institutions serving households, and financial intermediation services indirectly measured (FISIM, in short, which was introduced in accordance with the recommendations of the 1993 version of the United Nations *System of National Accounts*). In India the value of the last item i.e. FISIM increased from close to zero in 1983-84 to 2.5 percent of consumption in 1993-94, so that this alone accounts for a quarter of a percentage point per year of the difference in annual growth rates between NAS and NSS. Furthermore, it has also been argued that to the extent one is interested in measuring the living standards of the poor, it can reasonably be doubted whether any of the value of financial intermediation is relevant. In line with Minhas, another contribution to this volume by Abhijit Sen[35] underscored that to the extent that the NSS understates consumption, it is most likely due to undercounting the rich and their expenditures. Thus, most of the shortfall of NSS from NAS could be accounted for by expenditures by those at the top of the distribution. He argued that in such circumstances, the NSS would underestimate the degree of inequality, so that scaling up the NSS data to match the NAS mean would amount to understating poverty.

The Debate on Recall Period

The confusion generated by the alteration of recall period in the 55th round (1999-2000) of the NSS for select commodities – from the traditional 30-day period to either a 365-day period (for low-frequency expenditure items such as durables, footwear, clothing, education and institutional medical expenses) or for both a seven-day and a 30-day recall period (for high-frequency expenditure items such as food, paan and tobacco) has literally opened up the Pandora's box. Abhijit Sen (2000) considered this as a failed experiment at the first instance long before the published results of NSS 55th round was out. A number of scholarly works (by Deaton and Drèze[36] ;Himanshu and Sen[37]; Tarozzi[38]; Sundaram and Tendulkar[39], among others) contained in

35. Abhijit Sen, 'Estimates of Consumer Expenditure and its Distribution', Statistical Priorities after the NSS 55th Round, in Deaton and Kozel (2005).
36. Deaton, Angus and Jean Drèze, 'Poverty and inequality in India: a re-examination', in Deaton and Kozel (2005).
37. Himanshu and Abhijit Sen, 'Poverty and inequality in India: getting closer to the truth', in Deaton and Kozel (2005).
38. Tarozzi, A., 'Calculating comparable statistics from incomparable surveys, with an application to poverty in India', in Deaton and Kozel (2005).

the volume by Deaton and Kozel proposed variegated adjustments to achieve comparability between the resulting consumption estimates of the 55th round and those derived on the basis of previous rounds. However, the premises underlying the different adjustments that have been made are numerous, and their respective plausibility is also not straightforward to assess.

The corrections suggested by Deaton[40] and Tarozzi[41] relied on the fact that an important section of the questionnaire remained unaltered between the 50th and 55th rounds and could be used as a basis of comparison between them. These include items that are neither "high-frequency" nor "low-frequency" and for which a 30-day reporting period had been used in all the previous rounds. This group of "30-day" goods comprises six broad categories, fuel and light, miscellaneous goods, miscellaneous services, non-institutional medical expenses, rent, and consumer cesses and taxes which accounts for more than 20 percent of all rural household expenditures, and more in urban areas. Importantly, expenditure on these items has also been observed to be highly correlated with total household expenditure. In other words, their exercise evinced that there exists a part of expenditure that is consistently measured across the surveys and is also highly correlated with total expenditure whose direct measurement could not be trusted in the 55th round. Thus Deaton used the 50th round data to calculate the probability of being poor as a function of household per capita expenditure on the 30-day goods. This estimated probability was then used for the 55th round and used together with the (inflation-adjusted) expenditures on the 30-day goods in that round to estimate for each household a probability that it is poor according to the procedures and definitions of the 50th round. Adding up these probabilities over all households provided an estimate of the fraction in poverty as it would have been measured had the 55th round questionnaire been identical to that in the 50th round.

Sundaram and Tendulkar compared the 30-day reports from the employment and unemployment survey[42] with the comparable 30-day expenditures from the consumption expenditure survey and found that, at least at the mean, there was a reasonably good match. They

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39. Sundaram, K., and S. Tendulkar, 'Poverty Outcomes in India in the 1990s', in Deaton and Kozel (2005).
40. Deaton, A, 'Adjusted Indian Poverty Estimates for 1999/2000', in Deaton and Kozel (2005).
41. Tarozzi, A., 'Calculating comparable statistics from incomparable surveys, with an application to poverty in India', in Deaton and Kozel (2005).
42. The NSSO introduced a new, abbreviated (one-page) questionnaire on consumers' expenditure that was used for the households in the sample pertaining to employment and unemployment survey for the 55th round. The reporting period for this supplementary survey is 30-days for all of the "high" and "intermediate" frequency goods, so that, in principle, these data can be used instead of the data on food, *pan* and tobacco in the consumer expenditure survey, avoiding any contamination of the 30-day reports by the inclusion of the 7-day recall in the questionnaire.
43. Deaton and Kozel (2005), p 9.

used this evidence to argue that the 30-day reports in the main consumption expenditure survey were more or less accurate, at least on average, in spite of the presence of the potentially contaminating 7-day recall questions. They further noted that the 50th round had solicited expenditures on low frequency items, clothing, durables, educational expenses, and institutional medical expenditures for both 30-days and 365-days. Hence, if total expenditure for the 50th round were reconstructed using the latter, it would be possible to construct a notionally consistent measure of per capita expenditure in both 50th and 55th rounds, and hence arrive at consistent estimates of poverty. Based on the mixed reference periods for the 50th round (365 days for low frequency and 30 days for everything else) they estimated that rural poverty in 1993–94 was 34 percent and that this had fallen to 29 percent in 1999–2000. The decline estimated by them was about half of the official one and much less than Deaton's estimated decline, which was nearly seventy percent of the official one. For urban households, they estimated poverty in 1993–94 as 26 percent and observed that it had fallen to 23 percent in 1999–2000, which is only about a third of the official decline, whereas Deaton's estimate confirmed 85 percent of it. Sundaram and Tendulkar also extended their results to the major states to investigate what had happened to the poverty rates of different social and economic groups and observed that while some of the most vulnerable groups (scheduled castes, agricultural labourers, and urban casual labourers) had poverty reductions in line with those of the general population, others, such as the scheduled tribes, had been left behind.

Himanshu and Sen questioned both these studies. Beginning from the 50th round estimates of total expenditure from the "mixed" reference period (365 days for the low-frequency items and 30 days for everything else), they followed Deaton (who used total expenditure from the "uniform" reference period of 30-days), and calculated the probability of being poor conditional on expenditures on the consistently measured 30-day goods. Turning to the (contaminated) 55th round, they repeated the calculation of probability of being poor conditional on the consistently measured 30-day goods and calculated poverty from total expenditure from 30-day responses for all but low frequency items, and 365-day responses for the latter. Their calculation indicated that the contaminated "probability of being poor" function was actually *above* the schedule from the 50th round. Thus if food expenditures were indeed biased upwards in the 55th round, Deaton's stability assumption would become questionable, for example because the food Engel curve has shifted, with people at the same total expenditure level spending *less* on food relative to other things, such as the consistently-measured 30-day goods. If so, assessing poverty decline by looking at the increase in those expenditures will overstate the decline in poverty.

Himanshu and Sen also criticised Sundaram and Tendulkar's justification for their use of uncorrected 30-day expenditures for food, *pan*, and tobacco and produced new estimates using their own set of corrections. They use the following procedure. For each category of consumers' expenditure, they calculated three possible estimates:

(a) the mean from the consumer's expenditure section of the questionnaire,
(b) the mean from the corresponding category from the employment-unemployment section of the questionnaire
(c) a "counterfactual" based on extrapolation to the 55th round of results from the 53rd and 56th rounds. (The 54th round was only a half-year survey, and appears to be unreliable.)

Given that the estimates from the employment-unemployment part of the survey are likely to be biased down (because the categories are broadly aggregated), they first took whichever was larger of (b) and (c), and second, choose the smaller of this and the original estimate (a). Their estimate of the mean was thus the smaller of (a) and whichever the larger was of (b) and (c).

Himanshu and Sen's final estimates were in line with Sen's original view, that there had been very little decline in headcount poverty in India in the 1990s. Using comparable mixed reference periods for both rounds, they estimated that between the 50th and 55th rounds the rural headcount ratio fell by only 2.7 percentage points, from 31.9 percent to 29.1 percent, and the urban head-count ratio by 3.1 percentage points, from 29.2 percent to 26.1 percent. These estimates defined the "pessimistic" pole in the Indian poverty debate.

The Indian experience clearly demonstrates that it cannot be assumed that individual respondents will give an internally consistent picture of their consumption over distinct time periods. It may not also be the case that consumer self-reports concerning consumption will be monotonically distorted in the sense that a shorter recall period (or a longer one) will always entail a more accurate report. It cannot also be assumed that asking of other questions side-by-side will not "contaminate" the answers to any one of the questions asked.

Deaton and Kozel in their edited volume also reported the work of the "working group on non-sampling errors" which observed that when seven-day estimates, 30-day estimates, and a "gold standard" based on daily visits accompanied by direct measurement were compared in a

randomised trial, the seven-day estimates were on average 23 per cent higher than the 30-day estimates, but that the 30-day estimates were "for many important commodities" more accurate than the seven-day estimates.[43] Although this evidence has very little direct relevance to the case where different recall periods are applied side-by-side in a single questionnaire it is certainly matter of serious concern. The reality at the heart of the confusion lies in the fact that respondents do not necessarily behave rationally always. Rather, the responses suggest presence of some kind of cognitive, interpretative or communicative approximations or distortions. And it is very difficult to rectify these distortions by bringing them under the ambit of any theoretical framework. Such corrections could only be carried out through careful empirical observations.

From the aforesaid discussion it needs to be reiterated that the 1993 expert group established its original poverty lines on the basis of the "traditional" 30-day recall period. Any alteration in the recall period (as in the 55th round) has clearly unveiled not only the risks of incomparability of the consumption estimates generated in different years, but also the incompatibility between the resulting consumption estimates with the altered recall period and the conceptual foundation of the previously established poverty lines.

Debate on the Depiction of the Poverty Line[44]

Assessing poverty essentially comprises at the first instance the task of identifying the poor. The task of identification in turn involves the choice of conceptual and empirical criteria for the same. Thus in the assessment of income or consumption poverty, the identification criteria typically comprises the delineation of a poverty line (or lines) and of a particular method of empirically estimating the income or consumption of individuals to be compared to the invariant poverty line (or lines).

The poverty line chosen in earlier official efforts in India was more of a direct nature and was chosen on the ground that in a particular base year (1973-74) it possessed a specific relation to the actual achievements of human beings as conceived in a particular way (namely, in terms of calorific adequacy, as judged by the Planning Commission's Task Force). It is important to note that the Task Force tried to provide a rational basis for the poverty lines selected. Although the

44. This debate and the next debate on nutritional equivalence draws largely on an analysis carried out by Reddy (2007).

appropriateness of the calorific standard for human achievement is contestable and has been extensively debated (the next debate focuses on the calorie adequacy); there is hardly any doubt about the fact that it did provide a benchmark and that the Planning Commission did give due importance to this benchmark in the measurement of poverty. Later, however, the methodology delineated by the expert group, as illustrated before, has been applied uniformly across time and across regions for determining the poverty line(s) and official poverty ratio(s) by the Planning Commission. But a debate also cropped up around the latter approach that specified a set of poverty lines in an indirect manner by questioning its aptness and invariance over time and space.[45]

In this context, it is essential to contrast the two approaches that have usually been followed in setting the poverty line

(1) Apply as the poverty line in a specific time period the consumer expenditure of the particular section of the surveyed population in that same time period which consumed foods possessing a calorie content equivalent to a selected calorific norm.
(2) Apply as the poverty line in a specific time period a previously identified poverty line, updated (if necessary) in accordance with a specified price index.

The first approach maintains a substantive human achievement interpretation for the poverty line in each period of time by construction and is referred to as direct approach. The second approach or the indirect approach relies on a retrospective human achievement interpretation for the poverty line. However, the second approach becomes more relevant only if the chosen price index maintains real purchasing power appropriately over time. In India these two approaches to the setting of a poverty line coincide in the base year (i.e. 1973-74 in case of India's official poverty estimates) for the obvious reason that no updation exercise is involved there. But for the subsequent years such equivalence is possible only under exceptional circumstance, when the price index is constructed in such a manner that it takes some specific value which could lead to such equivalence, but that is merely coincidental. Thus, in reality, poverty lines constructed in accordance with the two methods are going to diverge from one another and such divergence could even be substantial. This is precisely what has happened in Indian context. The official poverty lines have been constructed by the Planning Commission by adopting the indirect

45. Some notable contributors to this debate include Palmer-Jones and Sen (2001), U. Patnaik (2004; 2005; 2006) and S. Subramanian (2005).

approach. However, poverty lines constructed in accordance with the direct approach turned out to be considerably higher than the official poverty line and the difference only increased over time.

Adopting a direct approach may be difficult and debatable in the Indian context (illustrated in the light of the next debate). But one also has to go along with the fact that the indirect approach followed in India has its share of problems. The apparently simple idea of fixing the base year in which the poverty line is defined and updating it for future estimation of poverty line hides the very fact that it may not be possible to decide on the appropriate price index for the updation exercise unless one ensures that the poverty line for the more recent year possesses the substantive interpretation that it should otherwise have.

In this light, Subramanian (2005) has pointed out that the rate of increase of the all-India wholesale price of cereals has mostly remained above the increase of the rural poverty line that has been updated according to the officially prescribed method. The picture is also not simple in terms of evidences on calorie intakes. Meenakshi and Viswanathan[46] in the edited volume by Deaton and Kozel underscored that in the recent period "the contribution of milk, edible oils and processed foods to total calories has increased", even among poorer persons. On the other hand, total calorie intake at the official poverty line (constructed by adopting indirect method) has decreased. In another study Mehta and Venkatraman (2000) reported that between 1973-74 and 1993-94 although the share of expenditure attributable to edible oils, vegetables, meats, fish, eggs, etc, increased substantially, due to increases in the prices of these products, real consumption appears to have increased negligibly. On the contrary, Sen (2005) emphasised that "the per capita consumption of fats in the country has increased by more than 50 per cent between 1972-73 and 1999-2000 and this growth has accelerated in recent years".

Debate on Nutritional Equivalence[47]

Without a well-researched and carefully done study it is difficult to establish any definitive relationship between the improvement in diversity and attendant quality of diet and the quantity of calories consumed by a poor person. Thus it cannot be necessarily assumed at the first instance that the improvement in diversity and attendant quality of diet will exactly compensate nutritionally the decrease in calories consumed by poorer persons. At the same time meeting

46. Meenakshi, J. V., and B. Vishwanathan, 'Calorie deprivation in rural India, 1983–1999/2000', in Deaton and Kozel (2005).
47. This section draws largely on Reddy (2007).

calorie adequacy norms cannot be considered as sufficient means of ensuring nutritional adequacy. Rather, the assessment of nutritional adequacy requires a more comprehensive approach and expertise. However, the narrowly food-energy-centric approach towards official measurement of poverty in the past by the Indian planners failed to consider the essence of the comprehensive approach that the appropriate judgment of nutritional equivalence demands.

The official poverty lines in India were founded on the assumption of a particular diversified food consumption pattern of a section of the population with food energy intake corresponding to the calorie norms in the base year. However, the approaches to presuming the food consumption pattern beforehand (usually referred to as inductive approaches) and multiplying that by a scalar factor in order to meet the calorie norms basically amounts to considering the actual consumption pattern of a certain section of the population as decisive. Lancaster and Ray (2005) and Sen (2005) argued that the official approach to the construction of poverty lines in India had been following a similar procedure. However, such approaches are conceptually weaker for a host of reasons which are illustrated below.

The food consumption pattern of any specific section of the population may reflect economic duress as well as tastes or prices. Further, changes in the specified population's food consumption pattern can result from increases or decreases in real income as well as from temporal variations in tastes or prices severely complicating the interpretation of poverty lines constructed at different times with reference to the "same" population (as pointed out by defenders of the prevailing indirect approach to the setting of the Indian poverty lines). If no non-inductive criterion whatever is applied to judge the appropriateness of the consumption pattern assumed to be required to attain the nutritional (or non-nutritional) norms, then there is simply no way to avoid these difficulties. Hence, the direct approach to the establishment of the poverty line in India is rather unsatisfactory, as is the indirect approach, and those who privilege the former as providing the "correct" estimates of poverty in India should also be questioned.

The exercise of poverty assessment ultimately involves evaluative judgments, although these must be appropriately supported by empirical facts. To mechanically privilege the latter over the former – as is systematically done in the wholly inductive approach to poverty line construction may not be appropriate. A more justifiable approach would be able to draw a synergy between evaluative judgments and empirical evidence concerning preferences and opportunities carefully.

Furthermore, the absence of an unchanging yardstick makes the exercise of poverty measurement problematic. A systematic approach to the monitoring of poverty across space and time demands application of a yardstick that is invariant with respect to time and also amenable in a contextually sensitive manner.

2.5 The Latest Estimate of Poverty by Expert Group of the Planning Commission formed in 2009: Salient Features[48]

In view of the criticism that had been leveled against the official poverty estimates from time to time, the Planning Commission set up another expert group under the chairmanship of Professor Suresh Tendulkar in 2009 to address these issues and to suggest a new poverty line and poverty estimates. The expert group suggested a new methodology to arrive at state wise and all-India rural and urban poverty lines for 2004-05 based on the latest available 61st round of National Sample Survey (NSS) on household consumer expenditure.

Following are the salient features of the proposed poverty lines:

1. The estimates of poverty will continue to be based on private household consumer expenditure of Indian households as collected by the National Sample Survey (NSS) Organization (NSSO).

2. Poverty lines won't be linked to a calorie *intake* norm

3. Mixed Reference Period (MRP) based estimates of consumption expenditure has been used as the basis for future poverty lines as against the previous practice of using Uniform reference period (URP) estimates of consumption expenditure.

4. In the interest of continuity as well as in view of the consistency with broad external validity checks with respect to nutritional, educational and health outcomes, the expert group decided to recommend MRP-equivalent of urban PLB corresponding to 25.7 per cent urban headcount ratio (estimated urban share of the poor population) in 2004-05 as the new reference PLB to be provided to rural as well as urban population in all the states after adjusting it for within-state urban-relative-to-rural and rural and urban state-relative-to-all-India price differentials. In other words, the new poverty lines seek to enable rural as well as urban population in all the states to afford the recommended all-India urban PLB after taking due account of within-state rural urban and inter-state differentials (rural and urban) incorporating observed consumer behaviour both at

48. This section draws largely on Government of India (2009b).

the all-India and state levels. The expert group also validated the proposed poverty lines by checking the adequacy of actual private expenditure per capita near the poverty lines on food, education and health by comparing them with normative expenditures consistent with nutritional, educational and health outcomes. Actual private expenditures reported by households near the new poverty lines on these items were found to be adequate at the all-India level in both the rural and the urban areas and for most of the states.

7. The proposed reference PLB takes into account all items of consumption (except transport and conveyance) for construction of price indices. Separate allowance for private expenditure on transport and conveyance has been made in the recommended poverty lines.

8. The price indices proposed by the expert group are based on the household-level unit values (approximated price data) obtained from the 61st round (July 2004 to June 2005) of NSS on household consumer expenditure survey for food, fuel and light, clothing and footwear at the most detailed level of disaggregation and hence much closer to the actual prices paid by the consumers in rural and urban areas. Price indices for health and education were also obtained from unit level data from related National Sample Surveys. The proposed price indices (Fisher Ideal indices) incorporate both the observed all-India and the state level consumption patterns in the weighting structure of the price indices. For rent and conveyance, actual expenditure share for these items had been used to adjust the poverty line for each state.

9. The new poverty lines have been generated for all the states including the north-eastern states. However, in the absence of adequate data, the expert group has suggested use of poverty line of the neighboring states for union territories.

The expert group underscored that except for the urban all-India headcount ratio for 2004-05 which was used to derive the all-India reference poverty line basket, all other headcount ratios – rural all-India and for rural and urban populations of the states for 2004-05 are based on the new reference basket and new price indices, and hence are not comparable and must not be compared to the earlier announced official headcount ratios using the earlier official poverty lines and out-dated price indices.

By adopting the above procedure the expert group estimated the all-India rural headcount ratio as 41.8 per cent pertaining to 2004-05 which is around 13 per cent higher than official estimate

arrived at by the planning commission using the previous expert group method (28.3 per cent) (see annexure table XIII for the poverty lines and state specific poverty headcount ratio for 2004-05, as estimated by the new expert group). Furthermore as the new estimate is not comparable with previous estimates of poverty due to procedural modification it would be necessary to re-estimate poverty for the previous years. In view of that, the new expert group carried out a preliminary exercise for the year 1993-94 in order to broadly make a two-point comparison of changes in poverty ratios. The exercise revealed that poverty at all India level in 1993-94 as 50.1 per cent in rural areas, 31.8 per cent in urban areas and 45.3 per cent in the country as a whole. On the contrary, the official poverty estimates pertaining to 1993-94 were 37.2 per cent in rural areas, 32.6 per cent in urban areas and 36.0 per cent at the all India level respectively (see annexure table XIV for the poverty lines and state specific poverty headcount ratio for 1993-94, as estimated by the new expert group). It could, however, be observed that that although the proposed methodology led to a higher estimate of poverty for 2004-05 and also for the 1993-94 the percentage point decline between 1993-94 and 2004-05 is not different from percentage point decline using the old expert group methodology.

3. Identification of the Poor in India's Five Year Plans[49]

The Ministry of Rural Development of the Government of India, in association with the State Governments identifies the poor households for selection of beneficiaries under the poverty alleviation programmes. The identification of the poor is distinct from the estimation of the incidence of poverty, for which the Planning Commission is the nodal agency in the Government of India, as already mentioned before. The poverty ratio is a macro estimate that is used to determine the various dimensions of the policies and programmes in order to improve the quality of life (especially that of the poor). In this respect, the ratio is used as a parameter in designing of the anti-poverty programme as a component of the overall planning and development strategy of the country. The macro parameters, particularly the investment and the other broader economic and social requirements is usually determined in conformity with the policies regarding poverty alleviation (broadly determined on the basis of poverty ratio) and judgments on other social and human development parameters through a Input-Output based consistency-cum-investment planning model.

49. This section draws largely from Government of India (2009a).

On the contrary, the BPL (Below Poverty Line) estimates are arrived at from the census of the rural households through the country. The actual identification of the beneficiary under the anti-poverty programme is made through a complete census of rural households known as BPL census which provide the real location of the poor families who are to be targeted. The identification of poor constitutes a critical component of poverty alleviation since these are the families who are targeted for state assistance for the income and employment generating anti-poverty programmes and the social welfare programmes. The BPL census is conducted at an interval of approximately five years, generally on the eve of a five year plan. This is known as BPL (below poverty line) census.

The first two BPL censuses were conducted in 1991-92 (at the beginning of the Eighth Five Year Plan, which covered the period 1992-97) and 1996-97 (at the beginning of the Ninth Five Year Plan, which covered the period 1997-2002). Both the census yielded the estimate of percentage and number of poor households at village, block, district and state level. Another method was devised in 2002 with the intention of use in the Tenth Five year Plan (2002-2007). This method, albeit novel as compared to its earlier vintages, has been criticized on various counts.

For BPL Census pertaining to Eleventh Five Year Plan, Ministry of Rural Development constituted an Expert Group to recommend a suitable methodology for identification of rural household living below the poverty line. The Expert Group had a wide range of discussion with the representatives of civil society, government Officials, Expert in the field. The Expert Group submitted its final report to the Ministry on 21st August 2009 and is under consideration of the Ministry of Rural Development for devising the methodology of conducting the census.

3.1 Identification of Poor in the Eighth Five Year Plan (1992-97)

The BPL census in 1991-92 was conducted by making use of the rural poverty line derived by the Task Force in 1991-92, which was then used by the Planning Commission in bringing out the official poverty estimates. The task force rural poverty line was not used directly but was converted into per family basis by using the information on average size of rural household obtained from the NSS consumer expenditure survey data (observed as around 5 members per family). This family based poverty line, expressed in terms of monthly consumption expenditure, was further converted into annual consumption expenditure. Equating the savings propensity of the poor to zero, this consumption was treated as income. Thus the poverty line so derived is based on family rather than a person and income rather than consumption. This

national level rural poverty line was then applied uniformly to rural areas of all the states in the country to separate the poor families from the non-poor in the BPL census.

The identified poor families through the lenses of this census far exceeded the poverty ratio estimated by the Planning Commission. The number of poor identified in the BPL census was almost twice of that estimated from the official poverty ratio estimated by the Planning Commission.

The foremost problem with the 1991-92 BPL Census lies in the choice of income to track the level of living of the population. The Planning Commission had been using consumption expenditure in place of income as it had always considered the former as more appropriate for analysis of level of living than the later for two primary reasons. First, expenditure data reflect more accurately people's actual level of living while income data are more concerned with people's potential level of living. Second, expenditure data are considered more reliable than income data as the latter often underestimates people's potential level of living due to much longer reference period (one year) for recalling one's income correctly (especially in the case of poor people with no regular permanent source of income). The reference period for expenditure is usually one month, except for expenditures on consumer durables. Moreover, income in kind such as, the consumption of own-produce is often valued at producer prices which results in people's actual level of living being underestimated.

The complexity of computing the household income is well known. Household income estimates are universally considered as less reliable than consumption estimates. In India, even a specialized institution such as CSO and NSS with technically competent staff has not attempted the estimates of household income. On the contrary, BPL census is conducted by locally available staff of rural development agencies (such as village level workers, school teachers, etc.), who are not professionally qualified or experienced to investigate household incomes. Therefore, considerable non-sampling errors are inevitable. Besides, there is an inherent upward bias with the BPL census as people know beforehand that this census is going to decide the category of families as poor or non-poor for anti-poverty government assistance.

Despite the aforesaid complexity of computing income, the 1991-92 BPL Census used the income of the family, albeit the job of assessment of the income of poor families is much less cumbersome as compared to that of the rich families. Moreover, the problem of family based

fixed poverty line compounded the problems for large families with small income per head, and also for smaller families with large income per head. This may be illustrated with an example. Consider two families, A and B. Family-A consists of ten persons and each one earns Rs. 1,500. The family income is 10 x Rs. 1,500 = Rs. 15,000. Since the total income of the family (Rs. 15,000) exceeds the poverty line (Rs. 11,000), Family-A is considered as non-poor. From the family-based poverty line of Rs. 11,000 in 1991-92, the poverty line per person works out to Rs. 2,200 (= Rs. 11,000/5). Therefore, it would be a mistake to count this family as non-poor since the income of each person in this family (Rs. 1,500) is well below Rs. 2,200. Now consider the opposite case of Family-B, which has two persons, each earning Rs. 4,500 per year. The total income of Family-B during the year is Rs. 9,000. Since this is less than the poverty line (Rs. 11,000), Family-B is counted as poor. Again, a mistake is committed; as Family-B is not poor since its income per head (Rs. 4,500) exceeds the poverty line per head (Rs. 2,200). Thus, the above procedure of identifying the poor based on the family poverty line declares a person with monthly income of Rs. 1,500 as non-poor, but a person with monthly income of Rs. 4,500 as poor.

In other words, the usage of income for measuring the poverty line inherently led to a mix up of the non-poor and poor and the estimates of the percentage of BPL households obtained from the census of rural families in 1991-92 were found to be far more than that obtained from the rural poverty estimates made by the Planning Commission on the basis of NSS consumer expenditure data using the Expert Group method.

In order to eliminate the aforementioned problems the procedure of conducting the BPL census was changed in 1996-97 in substantial measure. First, the income concept was changed to consumption. Second, the poverty line was changed from the household to person basis. Third, before administering the questionnaire, a set of exclusion criteria was adopted to eliminate ineligible families.

3.2 Identification of the Poor in the Ninth Five Year Plan (1997-2002)

The BPL census in 1996-97 was conducted in two stages. First, on the basis of certain exclusion criteria[50] such as, threshold level of income and ownership of land, building, consumer durables and agricultural implements some families were declared as non-poor. In the second stage, the total consumption, both purchased from the market and home grown, were gathered from the remaining families by interview method. The total consumption of the family was then divided by the total number of persons in the family, treating all the members (adult, adolescent and children) as identical units. The method eventually yielded the per capita consumption of the family. If the per capita consumption of the family fell below the money value of the poverty line (which was worked out at the state level using the Expert Group methodology and used by the Planning Commission to estimate the poverty ratio) then the family was counted as poor and included in the BPL group.

The revised methodology, however, led to considerable reduction of the gap between the percentage of the BPL households in 1996-97 and the estimate of rural poverty made by the Planning Commission in 1993-94 although the bias could not be completely removed.

3.3 Identification of the Poor in the Tenth Five Year Plan (2002-2007)

During the Tenth Five Year Plan an innovative approach was adopted in the matter of identification of poor families. The identification process was based on thirteen indicators of well-being. For each of these thirteen indicators, the households were awarded a score in a five point scale as 0, 1, 2, 3 and 4; the scores being inversely related to the poverty and deprivation of the household. A low score indicate a higher level of poverty and deprivation and *vice-versa*. The lower the score of the household, the greater is the chance of selection as a beneficiary.

The thirteen indicators of level of living chosen were: (a) Land Holding (b) Shelter (c) Clothing (d) Food Security (e) Sanitation (f) Ownership of Consumer Durables (g) Education (h) Labour Characteristics (i) Occupation category (j) Children's status (k) Indebtedness (l) Migration (m) Preference towards State Assistance.

50. The exclusion criteria is if the family operates more than two hectares of land, has a *pucca* house, if any resident member of the family has annual income from salary/self-employment exceeding Rs. 20,000 per annum (Rs. 1,700 per month), or if the family possesses a Television set, Refrigerator, Ceiling Fan, Motor Cycle/Scooter, Three-Wheeler, or if the family owns a Tractor, Power Tiller, Combined Thresher/Harvester, then the family is summarily excluded from the BPL group.

For each household, the scores from these 13 indicators were summed up to get the aggregate score of the household, which could range from zero to 52. The households were chosen for assistance according to their scores. The household with the least score was selected for assistance first. Then the household with next lowest score got selected. This way, the household with the highest score would be chosen last.

This method did not make use of the poverty line (used in the Seventh, 1985-90 and Eighth Plan, 1992-97) or a mix of poverty line and exclusion criteria (used in the Ninth Plan, 1997-2002). The method did not also yield the estimate of percentage of households living below the poverty line (obtained in the Eighth and Ninth Plan). In fine, this method did not use the poverty cut-off point to quantify the number of poor families. It rather underscored the attainment (or otherwise) of several socio-economic indicators that governs the well-being of population and ranked the households as per their access to these indicators. Furthermore, the choice of beneficiaries in an anti-poverty programme according to the consecutively higher score made the selection procedure contingent upon a concept of relative poverty, rather than absolute poverty as was the case earlier in the Eighth and Ninth Plans. However, in this respect also, the likelihood of choosing non-poor as the beneficiary cannot be ruled out since households with low score may not always necessarily be poor.

The methodology of BPL census 2002, therefore, allowed grading of the rural households in descending order based on a thirteen socio-economic indicators. The State Governments had been allowed freedom to select the bottom most families of the poor households such that the total percentage of families selected could be in consonance with the number of BPL households estimated by the Planning Commission. A margin of ten percent had been allowed over and above the Planning Commission's estimate. The cut-off points were allowed to be determined by the State Governments and could be at the district, block and any other level.

This method was devised for selection of beneficiary families during the Tenth Plan period (2002-2007). The surveys on this method (BPL Census, 2002) have been conducted. But, this method of identifying families had not been made operational initially due to a temporary stay by the Hon'ble Supreme Court.

The score based methodology of BPL Census 2002 has been criticized from several quarters and on various counts. First, a number of parameters in the score based methodology (for example, provision of toilets in the rural houses, housing, and education status of the children of the rural families) creates disincentives for the rural families in accessing these benefits because of the potential fear that is generated in their minds that revealing these

information might lead to their potential exclusion from the BPL list. Second, as there was no fixed quota in terms of selection of beneficiaries, most panchayats usually recommended a large number of names. However, many of these names were replaced later at the upper tier of administration by names of those with higher political or bureaucratic clout. Since the power of panchayats and gram sabhas was only confined to recommending names, the final decision on selection of potential BPL beneficiaries was in the hands of a few powerful bureaucrats at the upper tier. Thus, the entire selection process turned out to be top-down, non-transparent and encouraged corruption. Third, it was difficult to capture information on deprivations on some parameters like availability of clothes, food security, preference for assistance, etc. with a high level of objectivity as these parameters were neither clearly observable nor directly verifiable in nature. Most of the 13 criteria, as mentioned above, are such that cheating or giving false answers could not be easily checked. Fourth, when the poor raised voices against their non-inclusion they were often told that the list was full and their inclusion would be contingent upon a listed beneficiary's death. And finally, the inappropriate assessment in requirement for staff for doing a comprehensive survey led to the consequence that in actual practice often detailed survey was skipped, and the survey sheets were filled up within the office itself.[51]

3.4 Report of the Expert Group on the methodology for conducting the BPL Census for Eleventh Five Year Plan (2007-12): Salient Features [52]

The Ministry of Rural Development had constituted an Expert Group in early 2009 to recommend on the methodology of carrying out the BPL census pertaining to the Eleventh Five Year Plan. The group submitted its final report in August 2009. In view of the problems with the BPL Survey 2002, as briefly stated above, the expert group proposed a three-fold approach to identifying rural poor households: (a) to identify those who need to be automatically excluded; (b) to ensure that the poorest and most vulnerable sections who would otherwise get left out are automatically included; and (c) to grade the rest of the households and identify the poorest amongst them so that the total number of the poor {including (b)} is the same as conveyed to the panchayats by the district authorities. The approach was suggested with the expectation that this would facilitate programme delivery and direct targeted schemes to the most deserving sections of the poor. The following paragraphs are devoted to brief elaboration of each of these components.

51. This paragraph largely draws on GoI (2009a).
52. This section is based on GoI (2009a).

Criteria for automatic exclusion

The Expert Group recommended that the households which fulfil any one of the following conditions will not be surveyed for BPL status:

a) Families who own double the land of the district average of the agricultural land per agricultural household if partially or wholly irrigated (3 times if completely un-irrigated).Families who have three or four wheeled motorized vehicles, such as jeeps, SUVs, etc.
b) Families who have at least one mechanized farm equipment, such as tractor, power tiller, thresher, harvester, etc.
c) Families who have any person who is drawing a salary of over Rs. 10,000 per month in non-government/ private organizations or is employed in government (including para-statals) on a regular basis with pensionary or equivalent benefits.
d) Income tax payers

In case any state may wish to add on to the above indicators for exclusion, they may be permitted to do so. For instance, those owning a two-wheeler (according to NSSO, less than 8% of rural households own a two-wheeler), or a running bore well may also be excluded as per the discretion of the state government.

Criteria for automatic inclusion

The criteria proposed by the Expert Group to identify the poorest and most vulnerable sections for automatic inclusion are:

- Designated 'Primitive Tribal Groups'
- Designated most discriminated against SC groups, called 'Maha Dalit Groups', if so identified by the state
- Single women headed households
- Households with disabled person as bread-earner
- Household headed by a minor
- Destitute households which are dependent predominantly on alms for survival
- Homeless households

- Any member of the household is a bonded labourer

For the rest of the population, the Expert Group proposed a scoring for the ranking on a scale of ten is as follows:

A. SC/ST: 3 points; Denotified Tribes, and Designated 'Most Backward Castes': 2 points; Muslim/OBC: 1 point.

B. Landless agricultural worker: 4 points; agricultural labourer (with some land): 3 points; casual workers: 2 points; self-employed artisans or self-employed fisher folk (including those employed by others in such professions): 2 points.

C. No adult (above thirty years of age) has studied up to class 5 in the household: 1 point

D. Any member of the household has TB, leprosy, disability, mental illness or HIV AIDS: 1 point.

E. Household headed by an old person of age 60 and above: 1 point.

Those achieving highest marks would be included first, followed by the next high score, and so on, till one reaches the number to be identified by the panchayats. It is likely that on a scale of 1 to 10, a large number of families would get the same score. Some members of the Expert Group felt that it may create operational problems for providing assistance under various programmes and suggested that families may be ranked on a scale of 100 instead of 10. The Group however eventually decided in favour of the top score of 10 because the scheme has to be so simple that everyone in a village could calculate his/her own score even before the survey. Increasing the score to 100 would require adding more indicators than five which are suggested here, and it would lead to the same kind of problems that were encountered with the 13 point survey of 2002.

In case many households get similar marks, the special category group such as SC/ST may be placed at the top, followed by landless agricultural labourers in the sequence. Thus the priority amongst households with the same marks will be as follows:

SC/ST landless agricultural labourers

Other landless agricultural labourers

SC/ST agricultural labourers (with some land)

Other agricultural labourers (with some land), and so on.

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Annexure I

State Specific Poverty Lines in Rural Areas (1973-74 to 1993-94)

(Rs. Monthly Per Capita)

States/UTs	1973-74	1977-78	1983-84	1987-88	1993-94
1. Andhra Pradesh	41.71	50.88	72.66	91.94	163.02
2. Assam	49.82	60.29	98.32	127.44	232.05
3. Bihar	57.68	58.93	97.48	120.36	212.16
4. Goa	50.47	58.07	88.24	115.61	194.94
5. Gujarat	47.10	54.70	83.29	115.00	202.11
6. Haryana	49.95	59.37	88.57	122.90	233.79
7. Himachal Pradesh	49.95	59.37	88.57	122.90	233.79
8. Jammu & Kashmir	46.59	61.53	91.75	124.33	*
9. Karnataka	47.24	51.95	83.31	104.46	186.63
10. Kerala	51.68	58.88	99.35	130.61	243.84
11. Madhya Pradesh	50.20	56.26	83.59	107.00	193.10
12. Maharashtra	50.47	58.07	88.24	115.61	194.94
13. Orissa	46.87	58.89	106.28	121.42	194.03
14. Punjab	49.95	59.37	88.57	122.90	233.79
15. Rajasthan	50.96	57.54	80.24	117.52	215.89
16. Tamil Nadu	45.09	56.62	96.15	118.23	196.53
17. Uttar Pradesh	48.92	54.21	83.85	114.57	213.01
18. West Bengal	54.49	63.34	105.55	129.21	220.74
19. Dadra & N. Haveli	50.47	58.07	88.24	115.61	194.94
20. Delhi	49.95	59.37	88.57	122.90	233.79
21. All-India	49.63	56.84	89.50	115.20	205.84

N.B.: The poverty line (implicit) at all-India level is worked out from the expenditure class-wise distribution of persons and the poverty ratio at all-India level. The poverty ratio at all-India level is obtained as weighted average of the state-wise poverty ratio.

Annexure II

State Specific Poverty Lines in Urban Areas (1973-74 to 1993-94)

(Rs. Monthly Per Capita)

States/UTs	1973-74	1977-78	1983-84	1987-88	1993-94
1. Andhra Pradesh	53.96	69.05	106.43	151.88	278.14
2. Assam	50.26	61.38	97.51	126.60	212.42
3. Bihar	61.27	67.27	111.80	150.25	238.49
4. Goa	59.48	73.99	126.47	189.17	328.56
5. Gujarat	62.17	72.39	123.22	173.18	297.22
6. Haryana	52.42	66.94	103.48	143.22	258.23
7. Himachal Pradesh	51.93	66.32	102.26	144.10	253.61
8. Jammu & Kashmir	37.17	55.41	99.62	148.38	*
9. Karnataka	58.22	68.85	120.19	171.18	302.89
10. Kerala	62.78	67.05	122.64	163.29	280.54
11. Madhya Pradesh	63.02	74.40	122.82	178.35	317.16
12. Maharashtra	59.48	73.99	126.47	189.17	328.56
13. Orissa	59.34	72.41	124.81	165.40	298.22
14. Punjab	51.93	65.70	101.03	144.98	253.61
15. Rajasthan	59.99	72.00	113.55	165.38	280.85
16. Tamil Nadu	51.54	67.02	120.30	165.82	296.63
17. Uttar Pradesh	57.37	69.66	110.23	154.15	258.65
18. West Bengal	54.81	67.50	105.91	149.96	247.53
19. Dadra & N. Haveli	59.48	73.99	126.47	189.17	328.56
20. Delhi	67.95	80.17	123.29	176.91	309.48
21. All-India	56.76	70.33	115.65	162.16	281.35

N.B.: The poverty line (implicit) at all-India level is worked out from the expenditure class-wise distribution of persons and the poverty ratio at all-India level. The poverty ratio at all-India level is obtained as weighted average of the state-wise poverty ratio.

Annexure III

State-Specific Poverty Lines in 1999-2000

(Rs. per capita per month)

No.	States/UTs	Rural	Urban
1	Andhra Pradesh	262.94	457.40
2	Assam	365.43	343.99
3	Bihar	333.07	379.78
4	Gujarat	318.94	474.41
5	Haryana	362.81	420.20
6	Himachal Pradesh	367.45	420.20
7	Karnataka	309.59	511.44
8	Kerala	374.79	477.06
9	Madhya Pradesh	311.34	481.65
10	Maharashtra	318.63	539.71
11	Orissa	323.92	473.12
12	Punjab	362.68	388.15
13	Rajasthan	344.03	465.92
14	Tamil Nadu	307.64	475.60
15	Uttar Pradesh	336.88	416.29
16	West Bengal	350.17	409.22
17	Delhi	362.68	505.45
	All India#	327.56	454.11

Note: The poverty line (implicit) at all-India level is worked out from the expenditure class-wise distribution of persons and the poverty ratio at all-India level. The poverty ratio at all-India level is obtained as the weighted average of the state-wise poverty ratio.

Annexure IIIA

State-Specific Poverty Lines in 2004-05

(Rs. per capita per month)

S.No.	State/U.T.'s	Rural	Urban
1	Andhra Pradesh	292.95	542.89
2	Assam	387.64	378.84
3	Bihar	354.36	435.00
4	Chhattisgarh	322.41	560.00
5	Delhi	410.38	612.91
6	Goa	362.25	665.90
7	Gujarat	353.93	541.16
8	Haryana	414.76	504.49
9	Himachal Pradesh	394.28	504.49
10	Jammu & Kashmir	391.26	553.77
11	Jharkhand	366.56	451.24
12	Karnataka	324.17	599.66
13	Kerala	430.12	559.39
14	Madhya Pradesh	327.78	570.15
15	Maharashtra	362.25	665.90
16	Orissa	325.79	528.49
17	Punjab	410.38	466.16
18	Rajasthan	374.57	559.63
19	Tamil Nadu	351.86	547.42
20	Uttar Pradesh	365.84	483.26
21	Uttarakhand	478.02	637.67
22	West Bengal	382.82	449.32
23	Dadra & N. Haveli	362.25	665.90
	All-India *	356.30	538.60

* The poverty line (implicit) at all-India level is worked out from the expenditure class-wise distribution of persons (based on URP-consumption, that is, consumption data collected from 30 –day recall period for all items) and the poverty ratio at all-India level. The poverty ratio at all-India is obtained as the weighted average of the state-wise poverty ratio.

Annexure IV

State Specific Poverty Ratio and Number of Poor in 1973-74

(Poverty Ratio is Per Cent; No of Poor is in Thousands)

	Rural		Urban		Total	
State/UTs	Poverty Ratio	Number of Poor	Poverty Ratio	Number of Poor	Poverty Ratio	Number of Poor
1. Andhra Pradesh	48.41	17821	50.61	4748	48.86	22569
2. Arunachal Pradesh	52.67	257	36.92	9	51.93	266
3. Assam	52.67	7637	36.92	546	51.21	8183
4. Bihar	62.99	33652	52.96	3405	61.91	37057
5. Goa	46.85	316	37.69	100	44.26	416
6. Gujarat	46.35	9461	52.57	4381	48.15	13842
7. Haryana	34.23	3008	40.18	824	35.36	3832
8. Himachal Pradesh	27.42	938	13.17	35	26.39	973
9. Jammu & Kashmir	45.51	1841	21.32	207	40.83	2048
10. Karnataka	55.14	12840	52.53	4227	54.47	17067
11. Kerala	59.19	11136	62.74	2416	59.79	13552
12. Madhya Pradesh	62.66	23121	57.65	4509	61.78	27630
13. Maharashtra	57.71	21084	43.87	7658	53.24	28742
14. Manipur	52.67	511	36.92	75	49.96	586
15. Meghalaya	52.67	488	36.92	64	50.20	552
16. Mizoram	52.67	162	36.92	20	50.32	182
17. Nagaland	52.67	265	36.92	25	50.81	290
18. Orissa	67.28	14224	55.62	1223	66.18	15447
19. Punjab	28.21	3047	27.96	1002	28.15	4049
20. Rajasthan	44.76	10141	52.13	2710	46.14	12851
21. Sikkim	52.67	109	36.92	10	50.86	119
22. Tamil Nadu	57.43	17260	49.40	6692	54.94	23952
23. Tripura	52.67	788	36.92	66	51.00	854
24. Uttar Pradesh	56.53	44999	60.09	8574	57.07	53573
25. West Bengal	73.16	25796	34.67	4134	63.43	29930
26. A & N Island	57.43	59	49.40	15	55.56	74
27. Chandigarh	27.96	7	27.96	77	27.96	84
28. Dadra & N. Haveli	46.85	37	37.69	1	46.55	38
29. Delhi	24.44	106	52.23	2178	49.61	2284
30. Lakshadweep	59.19	18	62.74	3	59.68	21
31. Pondicherry	57.43	161	49.40	113	53.82	274
32. All India	56.44	261290	49.01	60046	54.88	321336

Annexure V

State Specific Poverty Ratio and Number of Poor in 1977-78

(Poverty Ratio is Per Cent; No of Poor is in Thousands)

	Rural		Urban		Total	
State/UTs	Poverty Ratio	Number of Poor	Poverty Ratio	Number of Poor	Poverty Ratio	Number of Poor
1. Andhra Pradesh	38.11	14913	43.55	4841	39.31	19754
2. Arunachal Pradesh	59.82	326	32.71	10	58.32	336
3. Assam	59.82	9755	32.71	583	57.15	10338
4. Bihar	63.25	36448	48.76	3734	61.55	40182
5. Goa	37.64	272	36.31	116	37.23	388
6. Gujarat	41.76	9253	40.02	3835	41.23	13088
7. Haryana	27.73	2643	36.57	905	29.55	3548
8. Himachal Pradesh	33.49	1246	19.44	58	32.45	1304
9. Jammu & Kashmir	42.86	1904	23.71	268	38.97	2172
10. Karnataka	48.18	12039	50.36	4778	48.78	16817
11. Kerala	51.48	10285	55.62	2437	52.22	12722
12. Madhya Pradesh	62.52	24798	58.66	5489	61.78	30287
13. Maharashtra	63.97	24975	40.09	8016	55.88	32991
14. Manipur	59.82	609	32.71	97	53.72	706
15. Meghalaya	59.82	610	32.71	69	55.19	679
16. Mizoram	59.82	203	32.71	28	54.38	231
17. Nagaland	59.82	344	32.71	30	56.04	374
18. Orissa	72.38	16250	50.92	1382	70.07	17632
19. Punjab	16.37	1887	27.32	1136	19.27	3023
20. Rajasthan	35.89	8966	43.53	2722	37.42	11688
21. Sikkim	59.82	141	32.71	13	55.89	154
22. Tamil Nadu	57.68	18250	48.69	7297	54.79	25547
23. Tripura	59.82	995	32.71	66	56.88	1061
24. Uttar Pradesh	47.60	40741	56.23	9696	49.05	50437
25. West Bengal	68.34	25969	38.20	5088	60.52	31057
26. A & N Island	57.68	71	48.69	20	55.42	91
27. Chandigarh	27.32	8	27.32	95	27.32	103
28. Dadra & N. Haveli	37.64	33	36.31	16	37.20	49
29. Delhi	30.19	135	33.51	1681	33.23	1816
30. Lakshadweep	51.48	13	55.62	7	52.79	20
31. Pondicherry	57.68	165	48.69	135	53.25	300
32. All India	53.07	264247	45.24	64648	51.32	328895

Annexure VI

State Specific Poverty Ratio and Number of Poor in 1983

(Poverty Ratio is Per Cent; No of Poor is in Thousands)

	Rural		Urban		Total	
State/UTs	Poverty Ratio	Number of Poor	Poverty Ratio	Number of Poor	Poverty Ratio	Number of Poor
1. Andhra Pradesh	26.53	11434	36.30	5024	28.91	16458
2. Arunachal Pradesh	42.60	270	21.73	12	40.88	282
3. Assam	42.60	7343	21.73	426	40.47	7769
4. Bihar	64.37	41770	47.33	4435	62.22	46205
5. Goa	14.81	116	27.00	107	18.90	223
6. Gujarat	29.80	7288	39.14	4504	32.79	11792
7. Haryana	20.56	2203	24.15	757	21.37	2960
8. Himachal Pradesh	17.00	707	9.43	34	16.40	741
9. Jammu & Kashmir	26.04	1311	17.76	249	24.24	1560
10. Karnataka	36.33	10050	42.82	4931	38.24	14981
11. Kerala	39.03	8162	45.68	2515	40.42	10677
12. Madhya Pradesh	48.90	21548	53.06	6249	49.78	27797
13. Maharashtra	45.23	19375	40.26	9714	43.44	29089
14. Manipur	42.60	476	21.73	89	37.02	565
15. Meghalaya	42.60	504	21.73	57	38.81	562
16. Mizoram	42.60	158	21.73	37	36.00	196
17. Nagaland	42.60	319	21.73	31	39.25	350
18. Orissa	67.53	16465	49.15	1666	65.29	18131
19. Punjab	13.20	1679	23.79	1185	16.18	2864
20. Rajasthan	33.50	9677	37.94	3006	34.46	12683
21. Sikkim	42.60	124	21.73	10	39.71	135
22. Tamil Nadu	53.99	18161	46.96	7846	51.66	26007
23. Tripura	42.60	835	21.73	60	40.03	895
24. Uttar Pradesh	46.45	44803	49.82	10871	47.07	55674
25. West Bengal	63.05	26860	32.32	5009	54.85	31869
26. A & N Island	53.99	84	46.96	26	52.13	111
27. Chandigarh	23.79	9	23.79	110	23.79	119
28. Dadra & N. Haveli	14.81	16	27.00	2	15.67	18
29. Delhi	7.66	44	27.89	1795	26.22	1839
30. Lakshadweep	39.03	9	45.68	10	42.36	19
31. Pondicherry	53.99	156	46.96	172	50.06	328
32. All India	45.65	251957	40.79	70940	44.48	322897

Annexure VII

State Specific Poverty Ratio and Number of Poor in 1987-88

(Poverty Ratio is Per Cent; No of Poor is in Thousands)

	Rural		Urban		Total	
State/UTs	Poverty Ratio	Number of Poor	Poverty Ratio	Number of Poor	Poverty Ratio	Number of Poor
1. Andhra Pradesh	20.92	9638	40.11	6405	25.86	16043
2. Arunachal Pradesh	39.35	275	9.94	8	36.22	283
3. Assam	39.35	7353	9.94	222	36.21	7575
4. Bihar	52.63	37023	48.73	5070	52.13	42093
5. Goa	17.64	131	35.48	165	24.52	296
6. Gujarat	28.67	7413	37.26	4822	31.54	12236
7. Haryana	16.22	1886	17.99	651	16.64	2537
8. Himachal Pradesh	16.28	727	6.29	25	15.45	752
9. Jammu & Kashmir	25.70	1411	17.47	285	23.82	1695
10. Karnataka	32.82	9681	48.42	6180	37.53	15861
11. Kerala	29.10	6164	40.33	2684	31.79	8848
12. Madhya Pradesh	41.92	20002	47.09	6429	43.07	26430
13. Maharashtra	40.78	18689	39.78	10938	40.41	29627
14. Manipur	39.35	483	9.94	46	31.35	529
15. Meghalaya	39.35	518	9.94	30	33.92	548
16. Mizoram	39.35	146	9.94	25	27.52	170
17. Nagaland	39.35	349	9.94	18	34.43	366
18. Orissa	57.64	14998	41.63	1595	55.58	16593
19. Punjab	12.60	1709	14.67	808	13.20	2517
20. Rajasthan	33.21	10497	41.92	3793	35.15	14290
21. Sikkim	39.35	131	9.94	4	36.06	136
22. Tamil Nadu	45.80	16180	38.64	6927	43.39	23107
23. Tripura	39.35	849	9.94	35	35.23	884
24. Uttar Pradesh	41.10	42974	42.96	10679	41.46	53653
25. West Bengal	48.30	22337	35.08	6024	44.72	28361
26. A & N Island	45.80	83	38.64	26	43.89	109
27. Chandigarh	14.67	8	14.67	76	14.67	84
28. Dadra & N. Haveli	67.11	79	-	-	67.11	79
29. Delhi	1.29	10	13.56	1015	12.41	1025
30. Lakshadweep	29.10	7	40.33	10	34.95	17
31. Pondicherry	45.80	133	38.64	172	41.46	305
32. All India	39.09	231879	38.20	75169	38.86	307049

Annexure VIII
State Specific Poverty Ratio and Number of Poor in 1993-94
(Poverty Ratio is Per Cent; No of Poor is in Thousands)

	Rural		Urban		Total	
State/UTs	Poverty Ratio	Number of Poor	Poverty Ratio	Number of Poor	Poverty Ratio	Number of Poor
1. Andhra Pradesh	15.92	7949	38.33	7447	22.19	15397
2. Arunachal Pradesh	45.01	362	7.73	11	39.35	373
3. Assam	45.01	9433	7.73	203	40.86	9636
4. Bihar	58.21	45086	34.50	4249	54.96	49335
5. Goa	5.34	38	27.03	153	14.92	191
6. Gujarat	22.18	6216	27.89	4302	24.21	10519
7. Haryana	28.02	3656	16.38	731	25.05	4388
8. Himachal Pradesh	30.34	1540	9.18	46	28.44	1586
9. Jammu & Kashmir	30.34	1905	9.18	186	25.17	2092
10. Karnataka	29.88	9599	40.14	6046	33.16	15646
11. Kerala	25.76	5595	24.55	2046	25.43	7641
12. Madhya Pradesh	40.64	21619	48.38	8233	42.52	29852
13. Maharashtra	37.93	19333	35.15	11190	36.86	30522
14. Manipur	45.01	633	7.73	47	33.78	680
15. Meghalaya	45.01	709	7.73	29	37.92	738
16. Mizoram	45.01	164	7.73	30	25.66	194
17. Nagaland	45.01	485	7.73	20	37.92	505
18. Orissa	49.72	14090	41.64	1970	48.56	16060
19. Punjab	11.95	1776	11.35	735	11.77	2511
20. Rajasthan	26.46	9468	30.49	3382	27.41	12850
21. Sikkim	45.01	181	7.73	3	41.43	184
22. Tamil Nadu	32.48	12170	39.77	8040	35.03	20210
23. Tripura	45.01	1141	7.73	38	39.01	1179
24. Uttar Pradesh	42.28	49617	35.39	10828	40.85	60446
25. West Bengal	40.80	20990	22.41	4466	35.66	25456
26. Andaman & N. Isl.	32.48	73	39.77	33	34.47	106
27. Chandigarh	11.35	7	11.35	73	11.35	80
28. Dadra & N. Haveli	51.95	72	39.93	6	50.84	77
29. Daman & Diu	5.34	3	27.03	15	15.80	18
30. Delhi	1.90	19	16.03	1532	14.69	1551
31. Lakshadweep	25.76	6	24.55	8	25.04	14
32. Pondicherry	32.48	93	39.77	238	37.40	331
33. All India	37.27	244031	32.36	76337	35.97	320368

Annexure IX

State Specific Poverty Ratio and Number of Poor in 1999-2000

(Poverty Ratio is Per Cent; No of Poor is in Thousands)

(30-day Recall period)

S.No.	States/UTs	Rural		Urban		Total	
		Poverty Ratio	Number of Poor	Poverty Ratio	Number of Poor	Poverty Ratio	Number of Poor
1	Andhra Pradesh	11.05	58.13	26.63	60.88	15.77	119.01
2	Arunachal Pradesh	40.04	3.8	7.47	0.18	33.47	3.98
3	Assam	40.04	92.17	7.47	2.38	36.09	94.55
4	Bihar	44.3	376.51	32.91	49.13	42.6	425.64
5	Goa	1.35	0.11	7.52	0.59	4.4	0.7
6	Gujarat	13.17	39.8	15.59	28.09	14.07	67.89
7	Haryana	8.27	11.94	9.99	5.39	8.74	17.34
8	Himachal Pradesh	7.94	4.84	4.63	0.29	7.63	5.12
9	Jammu & Kashmir	3.97	2.97	1.98	0.49	3.48	3.46
10	Karnataka	17.38	59.91	25.25	44.49	20.04	104.4
11	Kerala	9.38	20.97	20.27	20.07	12.72	41.04
12	Madhya Pradesh	37.06	217.32	38.44	81.22	37.43	298.54
13	Maharashtra	23.72	125.12	26.81	102.87	25.02	227.99
14	Manipur	40.04	6.53	7.47	0.66	28.54	7.19
15	Meghalaya	40.04	7.89	7.47	0.34	33.87	8.23
16	Mizoram	40.04	1.4	7.47	0.45	19.47	1.85
17	Nagaland	40.04	5.21	7.47	0.28	32.67	5.49
18	Orissa	48.01	143.69	42.83	25.4	47.15	169.09
19	Punjab	6.35	10.2	5.75	4.29	6.16	14.49
20	Rajasthan	13.74	55.06	19.85	26.78	15.28	81.83
21	Sikkim	40.04	2	7.47	0.04	36.55	2.05
22	Tamil Nadu	20.55	80.51	22.11	49.97	21.12	130.48
23	Tripura	40.04	12.53	7.47	0.49	34.44	13.02
24	Uttar Pradesh	31.22	412.01	30.89	117.88	31.15	529.89
25	West Bengal	31.85	180.11	14.86	33.38	27.02	213.49
26	A & N Island	20.55	0.58	22.11	0.24	20.99	0.82
27	Chandigarh	5.75	0.06	5.75	0.45	5.75	0.51
28	Dadra & Nagar Haveli	17.57	0.3	13.52	0.03	17.14	0.33
29	Daman & Diu	1.35	0.01	7.52	0.05	4.44	0.06
30	Delhi	0.4	0.07	9.42	11.42	8.23	11.49
31	Lakshadweep	9.38	0.03	20.27	0.08	15.6	0.11
32	Pondicherry	20.55	0.64	22.11	1.77	21.67	2.41
	All India	27.09	1932.43	23.62	670.07	26.1	2602.5

Annexure X

State Specific Poverty Ratio and Number of Poor in 1999-2000

(Poverty Ratio is Per Cent; No of Poor is in Thousands)

(7-day Recall period)

S.No.	States/UTs	Rural		Urban		Total	
		Poverty Ratio	No. of Poor	Poverty Ratio	No. of Poor	Poverty Ratio	No. of Poor
1	Andhra Pradesh	9.15	48.14	24.48	55.96	13.79	104.1
2	Arunachal Pradesh	34	3.23	6.29	0.15	28.41	3.38
3	Assam	34	78.27	6.29	2	30.64	80.27
4	Bihar	38	322.96	29.23	43.64	36.69	366.6
5	Goa	2.8	0.23	5.03	0.4	3.9	0.62
6	Gujarat	12.2	36.87	13.76	24.8	12.78	61.66
7	Haryana	7.71	11.13	8.02	4.33	7.79	15.46
8	Himachal Pradesh	7.61	4.63	3.95	0.24	7.27	4.88
9	Jammu & Kashmir	4.14	3.1	1.7	0.42	3.53	3.52
10	Karnataka	13.64	47.02	22.33	39.35	16.58	86.36
11	Kerala	8.14	18.2	17.91	17.73	11.14	35.93
12	Madhya Pradesh	34.58	202.78	35.46	74.93	34.81	277.7
13	Maharashtra	20.71	109.25	25.23	96.81	22.61	206.05
14	Manipur	34	5.54	6.29	0.56	24.21	6.1
15	Meghalaya	34	6.7	6.29	0.29	28.75	6.99
16	Mizoram	34	1.19	6.29	0.38	16.5	1.57
17	Nagaland	34	4.42	6.29	0.24	27.73	4.66
18	Orissa	43.98	131.63	40.33	23.92	43.38	155.55
19	Punjab	5.31	8.53	5.4	4.03	5.34	12.56
20	Rajasthan	12.22	48.97	18.8	25.36	13.88	74.33
21	Sikkim	34	1.7	6.29	0.04	31.03	1.74
22	Tamil Nadu	18.68	73.19	20.27	45.81	19.26	119
23	Tripura	34	10.64	6.29	0.41	29.24	11.05
24	Uttar Pradesh	28.75	379.41	29.04	110.82	28.82	490.23
25	West Bengal	27.24	154.04	13.83	31.06	23.43	185.1
26	A & N Island	18.68	0.52	20.27	0.22	19.13	0.75
27	Chandigarh	5.4	0.06	5.4	0.42	5.4	0.48
28	Dadra & Nagar Haveli	15.31	0.26	10.89	0.02	14.84	0.28
29	Daman & Diu	2.8	0.02	5.03	0.04	3.92	0.05
30	Delhi	0.63	0.12	5.38	6.52	4.75	6.64
31	Lakshadweep	8.14	0.02	17.91	0.07	13.72	0.1
32	Pondicherry	18.68	0.58	20.27	1.62	19.83	2.2
	All India	24.02	1713.35	21.59	612.57	23.33	2325.92

Annexure XI

State Specific Poverty Ratio and Number of Poor in 2004-05

(Poverty Ratio is Per Cent; No of Poor is in Thousands)

(Uniform Recall Period*)

	Rural		Urban		Total	
State/UTs	Poverty Ratio	Number of Poor	Poverty Ratio	Number of Poor	Poverty Ratio	Number of Poor
1 Andhra Pradesh	11.2	64.70	28.0	61.40	15.8	126.10
2 Arunachal Pradesh	22.3	1.94	3.3	0.09	17.6	2.03
3 Assam	22.3	54.50	3.3	1.28	19.7	55.77
4 Bihar	42.1	336.72	34.6	32.42	41.4	369.15
5 Chhattisgarh	40.8	71.50	41.2	19.47	40.9	90.96
6 Delhi	6.9	0.63	15.2	22.30	14.7	22.93
7 Goa	5.4	0.36	21.3	1.64	13.8	2.01
8 Gujarat	19.1	63.49	13.0	27.19	16.8	90.69
9 Haryana	13.6	21.49	15.1	10.60	14.0	32.10
10 Himachal Pradesh	10.7	6.14	3.4	0.22	10.0	6.36
11 Jammu & Kashmir	4.6	3.66	7.9	2.19	5.4	5.85
12 Jharkhand	46.3	103.19	20.2	13.20	40.3	116.39
13 Karnataka	20.8	75.05	32.6	63.83	25.0	138.89
14 Kerala	13.2	32.43	20.2	17.17	15.0	49.60
15 Madhya Pradesh	36.9	175.65	42.1	74.03	38.3	249.68
16 Maharashtra	29.6	171.13	32.2	146.25	30.7	317.38
17 Manipur	22.3	3.76	3.3	0.20	17.3	3.95
18 Meghalaya	22.3	4.36	3.3	0.16	18.5	4.52
19 Mizoram	22.3	1.02	3.3	0.16	12.6	1.18
20 Nagaland	22.3	3.87	3.3	0.12	19.0	3.99
21 Orissa	46.8	151.75	44.3	26.74	46.4	178.49
22 Punjab	9.1	15.12	7.1	6.50	8.4	21.63
23 Rajasthan	18.7	87.38	32.9	47.51	22.1	134.89
24 Sikkim	22.3	1.12	3.3	0.02	20.1	1.14
25 Tamil Nadu	22.8	76.50	22.2	69.13	22.5	145.62
26 Tripura	22.3	6.18	3.3	0.20	18.9	6.38
27 Uttar Pradesh	33.4	473.00	30.6	117.03	32.8	590.03
28 Uttarakhand	40.8	27.11	36.5	8.85	39.6	35.96
29 West Bengal	28.6	173.22	14.8	35.14	24.7	208.36
30 A & N Islands	22.9	0.60	22.2	0.32	22.6	0.92
31 Chandigarh	7.1	0.08	7.1	0.67	7.1	0.74
32 Dadra & N. Haveli	39.8	0.68	19.1	0.15	33.2	0.84
33 Daman & Diu	5.4	0.07	21.2	0.14	10.5	0.21
34 Lakshadweep	13.3	0.06	20.2	0.06	16.0	0.11
35 Pondicherry	22.9	0.78	22.2	1.59	22.4	2.37
All-India	28.3	2209.24	25.7	807.96	27.5	3017.20

*In Uniform Recall Period (URP) consumption the consumer expenditure data for all the items are collected from 30-day recall period.

Notes:

1. Poverty Ratio of Assam is used for Sikkim, Arunachal Pradesh, Meghalaya, Mizoram, Manipur, Nagaland and Tripura.
2. Poverty Line of Maharashtra and expenditure distribution of Goa is used to estimate poverty ratio of Goa.
3. Poverty Ratio of Tamil Nadu is used for Pondicherry and A & N Island.
4. Urban Poverty Ratio of Punjab used for both rural and urban poverty of Chandigarh.
5. Poverty Line of Maharashtra and expenditure distribution of Dadra & Nagar Haveli is used to estimate poverty ratio of Dadra & Nagar Haveli.
6. Poverty Ratio of Goa is used for Daman & Diu.
7. Poverty Ratio of Kerala is used for Lakshadweep.

Annexure XII
State Specific Poverty Ratio and Number of Poor in 2004-05
(Poverty Ratio is Per Cent; No of Poor is in Thousands)
(Mixed Recall Period*)

	Rural		Urban		Total	
State/UTs	Poverty Ratio	Number of Poor	Poverty Ratio	Number of Poor	Poverty Ratio	Number of Poor
1 Andhra Pradesh	7.5	43.21	20.7	45.50	11.1	88.71
2 Arunachal Pradesh	17.0	1.47	2.4	0.07	13.4	1.54
3 Assam	17.0	41.46	2.4	0.93	15.0	42.39
4 Bihar	32.9	262.92	28.9	27.09	32.5	290.01
5 Chhattisgarh	31.2	54.72	34.7	16.39	32.0	71.11
6 Delhi	0.1	0.01	10.8	15.83	10.2	15.83
7 Goa	1.9	0.13	20.9	1.62	12.0	1.74
8 Gujarat	13.9	46.25	10.1	21.18	12.5	67.43
9 Haryana	9.2	14.57	11.3	7.99	9.9	22.56
10 Himachal Pradesh	7.2	4.10	2.6	0.17	6.7	4.27
11 Jammu & Kashmir	2.7	2.20	8.5	2.34	4.2	4.54
12 Jharkhand	40.2	89.76	16.3	10.63	34.8	100.39
13 Karnataka	12.0	43.33	27.2	53.28	17.4	96.60
14 Kerala	9.6	23.59	16.4	13.92	11.4	37.51
15 Madhya Pradesh	29.8	141.99	39.3	68.97	32.4	210.97
16 Maharashtra	22.2	128.43	29.0	131.40	25.2	259.83
17 Manipur	17.0	2.86	2.4	0.14	13.2	3.00
18 Meghalaya	17.0	3.32	2.4	0.12	14.1	3.43
19 Mizoram	17.0	0.78	2.4	0.11	9.5	0.89
20 Nagaland	17.0	2.94	2.4	0.09	14.5	3.03
21 Orissa	39.8	129.29	40.3	24.30	39.9	153.59
22 Punjab	5.9	9.78	3.8	3.52	5.2	13.30
23 Rajasthan	14.3	66.69	28.1	40.50	17.5	107.18
24 Sikkim	17.0	0.85	2.4	0.02	15.2	0.87
25 Tamil Nadu	16.9	56.51	18.8	58.59	17.8	115.10
26 Tripura	17.0	4.70	2.4	0.14	14.4	4.85
27 Uttar Pradesh	25.3	357.68	26.3	100.47	25.5	458.15
28 Uttarakhand	31.7	21.11	32.0	7.75	31.8	28.86
29 West Bengal	24.2	146.59	11.2	26.64	20.6	173.23
30 A & N Islands	16.9	0.44	18.8	0.27	17.6	0.71
31 Chandigarh	3.8	0.04	3.8	0.36	3.8	0.40
32 Dadra & N. Haveli	36.0	0.62	19.2	0.16	30.6	0.77
33 Daman & Diu	1.9	0.03	20.8	0.14	8.0	0.16
34 Lakshadweep	9.6	0.04	16.4	0.05	12.3	0.09
35 Pondicherry	16.9	0.58	18.8	1.34	18.2	1.92
All-India	21.8	1702.99	21.7	682.00	21.8	2384.99

*In Mixed Recall Period (MRP) consumption the consumer expenditure data for five non-food items, namely, clothing, footwear, durable goods, education and institutional medical expenses are collected from 365-day recall period and the consumption data for the remaining items are collected from 30-day recall period.
Note: Same as Annexure Table XI

Annexure XIII
Poverty Lines and State Specific Poverty Head Count Ratio for 2004-05
(Tendulkar Committee)

	Poverty Line (Rs)		Headcount Ratio (%)		
State	Rural	Urban	Rural	Urban	Total
Andhra Pradesh	433.43	563.16	32.3	23.4	29.9
Arunachal Pradesh	547.14	618.45	33.6	23.5	31.1
Assam	478.00	600.03	36.4	21.8	34.4
Bihar	433.43	526.18	55.7	43.7	54.4
Chhattisgarh	398.92	513.70	55.1	28.4	49.4
Delhi	541.39	642.47	15.6	12.9	13.1
Goa	608.76	671.15	28.1	22.2	25.0
Gujarat	501.58	659.18	39.1	20.1	31.8
Haryana	529.42	626.41	24.8	22.4	24.1
Himachal Pradesh	520.40	605.74	25.0	4.6	22.9
Jammu & Kashmir	522.30	602.89	14.1	10.4	13.2
Jharkhand	404.79	531.35	51.6	23.8	45.3
Karnataka	417.84	588.06	37.5	25.9	33.4
Kerala	537.31	584.70	20.2	18.4	19.7
Madhya Pradesh	408.41	532.26	53.6	35.1	48.6
Maharashtra	484.89	631.85	47.9	25.6	38.1
Manipur	578.11	641.13	39.3	34.5	38.0
Meghalaya	503.32	745.73	14.0	24.7	16.1
Mizoram	639.27	699.75	23.0	7.9	15.3
Nagaland	687.30	782.93	10.0	4.3	9.0
Orissa	407.78	497.31	60.8	37.6	57.2
Pondicherry	385.45	506.17	22.9	9.9	14.1
Punjab	543.51	642.51	22.1	18.7	20.9
Rajasthan	478.00	568.15	35.8	29.7	34.4
Sikkim	531.50	741.68	31.8	25.9	31.1
Tamilnadu	441.69	559.77	37.5	19.7	28.9
Tripura	450.49	555.79	44.5	22.5	40.6
Uttar Pradesh	435.14	532.12	42.7	34.1	40.9
Uttaranchal	486.24	602.39	35.1	26.2	32.7
West Bengal	445.38	572.51	38.2	24.4	34.3
All India	446.68	578.8	41.8	25.7	37.2

Annexure XIV
Poverty Lines and State Specific Poverty Head Count Ratio for 1993-94
(Tendulkar Committee)

	Poverty Line (Rs)		Poverty HCR		
	Rural	Urban	Rural	Urban	Total
Andhra Pradesh	244.1	282.0	48.1	35.2	44.6
Arunachal Pradesh	285.1	297.1	60.0	22.6	54.5
Assam	266.3	306.8	54.9	27.7	51.8
Bihar	236.1	266.9	62.3	44.7	60.5
Chhattisgarh	229.1	283.5	55.9	28.1	50.9
Delhi	315.4	320.3	16.2	15.7	15.7
Goa	316.2	306.0	25.5	14.6	20.8
Gujarat	279.4	320.7	43.1	28.0	37.8
Haryana	294.1	312.1	40.0	24.2	35.9
Himachal Pradesh	272.7	316.0	36.7	13.6	34.6
Jammu & Kashmir	289.1	281.1	32.5	6.9	26.3
Jharkhand	227.7	304.1	65.9	41.8	60.7
Karnataka	266.9	294.8	56.6	34.2	49.5
Kerala	286.5	289.2	33.9	23.9	31.3
Madhya Pradesh	232.5	274.5	49.0	31.8	44.6
Maharashtra	268.6	329.0	59.3	30.3	47.8
Manipur	322.3	366.3	64.4	67.2	65.1
Meghalaya	284.1	393.4	38.0	23.0	35.2
Mizoram	316.5	355.7	16.6	6.3	11.8
Nagaland	381.7	409.6	20.1	21.8	20.4
Orissa	224.2	279.3	63.0	34.5	59.1
Pondicherry	220.3	264.3	28.1	32.4	30.9
Punjab	286.9	342.3	20.3	27.2	22.4
Rajasthan	271.9	300.5	40.8	29.9	38.3
Sikkim	266.6	362.2	33.0	20.4	31.8
Tamilnadu	252.6	288.2	51.0	33.7	44.6
Tripura	275.8	316.6	34.3	25.4	32.9
Uttar Pradesh	244.3	281.3	50.9	38.3	48.4
Uttaranchal	249.5	306.7	36.7	18.7	32.0
West Bengal	235.5	295.2	42.5	31.2	39.4
All India			50.1	31.8	45.3

Note: The estimates for Chhattisgarh, Madhya Pradesh, Bihar, Jharkhand, Uttar Pradesh and Uttaranchal are for states as they exist after bifurcation in 2001. The estimates for 1993-94 have been calculated from the unit data using district and state boundaries of the divided states in 1993-94.

Annexure XV

Select Measures of Poverty

Three measures of poverty (1) the head count ratio (HCR) which indicates the proportion of the population below poverty line in terms of a given norm. This is the most widely used measure in India. (2) The poverty gap index (PGI) which indicates the ratio of the aggregate poverty gap of all poor households to the minimum normative aggregate expenditure for the entire (poor as well as non-poor) population (poverty line multiplied by the total population). This is described as the depth measure of poverty. (3) James Foster, Joel Greer and Erik Thorbecke, popularly known as FGT which has its components, namely, the head count ratio, the (squared) poverty gap ratio and the relative inequality amongst the poor as measured by the squared coefficient of variation.

The Headcount Approach

This approach entails the computation of poverty line, defining in a specific way, the number of poor, and expressing the ratio of persons below the poverty line, to the total number of people in a particular society. In other words, if the number of persons below the poverty line is 'q' and the total population be 'n' then the head count ratio (H) will be: H= q/n

Amartya Sen finds two drawbacks in the headcount measure: firstly, the ratio does not take into account the extent of the shortfall of income of those below the 'poverty line', i.e., if the income of all below the poverty line is reduced without affecting the income of those above this line, it will not register any effort whatsoever on the headcount measure and secondly, it is insensitive to the distribution of income among the poor. For example, transfer of income form a poor to non-poor will again have no effect on the headcount measure.

Poverty Gap Measure

The other measure – the poverty gap – is defined as the ratio of the average income below the poverty line. In this approach, the aggregate shortfall of income of all the poor below the specified poverty line is calculated.

Let $(y_1, y_2, y_3, \ldots y_n)$ be the vector of incomes,

z is the poverty line,

n is the total numbers of persons of which q are poor,

$$q/n = H \text{ (the Head Count Ratio)},$$

The poverty gap I is defined as

$$I = \sum_{i=1}^{q} (z - y_i) / qz$$

The poverty gap or income gap ratio measure of poverty is insensitive to transfer of income among the poor as long as nobody crosses the poverty line. It pays no attention whatsoever to the number of proportion of poor below the poverty line concentration only on the aggregate shortfall no matter how it is distributed and among how many.

Sen's Poverty Measure Index

A seemingly mild requirement for a poverty index is that it should satisfy the focus axiom which requires the poverty measure to be insensitive (other things being equal) to an increase in the income of a non-poor person. A second desirable property is that, other things being equal, to an increase in the income of a non-poor person. A second desirable property is that, other things being equal, a reduction in poor person's income should increase the value of the poverty measure: this is called the monotonicity axiom. A third desirable property is the transfer axiom: this axiom demands that, other things being equal a transfer of income from a poor person to a richer poor person should raise the value of the poverty index. A weakened version of this axiom – the weak transfer axiom – would require that a regressive transfer of the type just described should increase the value of the poverty index, provided the beneficiary of the transfer continues to remain after the transfer. It is easy to see that both H and I satisfy the focus axiom; that H violates both monotonicity and weak transfer and that I satisfy monotonicity while violating weak transfer.

Sen seeks to derive an index of poverty, which is capable of satisfying weak transfer as well as the other axioms just discussed. Pursuing axiomatic approach, Sen demonstrate that the only index capable of satisfying a set of plausible properties can be given in the asymptotic case, where the number of poor person is large by

$$P_s = H [I – (1 – I) G_p]$$

Where the measure P_s has a number of desirable properties and G_p is the Ginni coefficient of the income distribution of the poor. Sen's index is a distribution-sensitive index: it satisfies the weak transfer axiom (though not necessarily the transfer axiom), as well as the focus and

monotonicity axioms, and presents a comprehensive picture of poverty by utilizing data on the incidence of poverty (H), the depth of poverty (I) and the extend of inequality in the distribution of poor income (via G_p). Sen's index also satisfies symmetry, which requires that the value of the poverty index should be invariant with respect to a permutation of income across individuals.

James Foster, Joel Greer and Erik Thorbecke's Poverty Measure Index

A measure advanced by Foster, Greer and Thorbecke in 1984 is additively decomposable apart from satisfying the desirable properties suggested by Sen. The measure popularly known as FGT index and is given by:

Let

$$H = q/n$$

be the head count ratio and

$$I = \sum_{i=1}^{q} (z - y_i) / qz$$

be the poverty gap (income-gap) ratio,

and $$C_p^2 = \sum_{i=1}^{q} (y_p - y_i) / qy_p^2$$

Where $$y_p = \sum_{i=1}^{q} y_i / q$$

Then $FGT = H[I^2+(1-I)^2C^2_p]$

Finally the squared co-efficient of variation C^2 is the measure of inequality 'corresponding' to P in the sense that C^2 is obtained when n and y (the mean of y) are substituted for q and z in the definition of P.